4.5 ENERGY

In order to assure that energy implications are considered in project decisions, Appendix F, Energy Conservation, of the CEQA Guidelines, requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. As of April 2019, there are two specific thresholds of significance for potential energy impacts in the State CEQA Guidelines. This section provides a general description of the regulatory setting addressing existing electric and natural gas services and infrastructure, and supply and demand in Concord and the project site, and impact analysis from Appendix F and G of the CEQA Guidelines.

4.5.1 ENVIRONMENTAL SETTING

4.5.1.1 REGULATORY FRAMEWORK

Federal Regulations

Energy Independence and Security Act of 2007

Signed into law in December 2007, this Act is an energy policy law that contains provisions designed to increase energy efficiency and the availability of renewable energy. The Act contains provisions for increasing fuel economy standards for cars and light trucks, while establishing new minimum efficiency standards for lighting as well as residential and commercial appliance equipment.

Energy Policy Act of 2005

Passed by Congress in July 2005, the Energy Policy Act includes a comprehensive set of provisions to address energy issues. This Act includes tax incentives for the following: energy conservation improvements in commercial and residential buildings; fossil fuel production and clean coal facilities; and construction and operation of nuclear power plants, among other things. Subsidies are also included for geothermal, wind energy, and other alternative energy producers.

Natural Gas Pipeline Safety Act of 1968

The Natural Gas Pipeline Safety Act of 1968 authorizes the Department of Transportation (DOT) to regulate pipeline transportation of flammable, toxic, or corrosive natural gas and other gases as well as the transportation and storage of liquefied natural gas. The Pipeline and Hazardous Materials Safety Administration (PHMSA) within DOT develops and enforces regulations for the safe, reliable, and environmentally sound operation of the nation's 2.6 million mile pipeline transportation system. DOT's and PHMSA's regulations governing natural gas transmission pipelines, facility operations, employee activities, and safety are found at 49CFR Part 40, 40CFR Part 190, 40CFR Part 191, 49CFR Part 192, 49CFR Part 193 and 49CFR Part 199.

National Energy Policy

Established in 2001 by the National Energy Policy Development Group, this policy is designed to help the private sector and state and local governments promote dependable, affordable, and environmentally sound production and distribution of energy for the future. Key issues addressed by the energy policy are energy conservation, repair and expansion of energy infrastructure, and ways of increasing energy supplies while protecting the environment.

Update to Corporate Average Fuel Economy Standards (2010/2012)

The current Corporate Average Fuel Economy standards (for model years 2011 to 2016) incorporate stricter fuel economy requirements promulgated by the federal government and California into one uniform standard. Additionally, automakers were required to cut GHG emissions in new vehicles by roughly 25 percent by 2016 (resulting in a fleet average of 35.5 miles per gallon by 2016). Rulemaking to adopt these new standards was completed in 2010. California agreed to allow automakers who show compliance with the national program to also be deemed in compliance with state requirements. The federal government issued new standards in 2012 for model years 2017 to 2025 that will require a fleet average of 54.5 miles per gallon in 2025. However, the EPA is reexamining the 2017–2025 emissions standards.

State Regulations

California Public Utilities Commission

In September 2008, the California Public Utilities Commission (CPUC) adopted the Long Term Energy Efficiency Strategic Plan, which provides a framework for energy efficiency in California through the year 2020 and beyond. It articulates a long-term vision, as well as goals for each economic sector, identifying specific near-, mid-, and long-term strategies to assist in achieving these goals. This Plan sets forth the following four goals, known as Big Bold Energy Efficiency Strategies, to achieve significant reductions in energy demand:

- All new residential construction in California will be zero net energy by 2020;
- All new commercial construction in California will be zero net energy by 2030;
- Heating, Ventilation and Air Conditioning (HVAC) will be transformed to ensure that its energy performance is optimal for California's climate; and
- All eligible low-income customers will be given the opportunity to participate in the low-income energy efficiency program by 2020.

With respect to the commercial sector, the Long Term Energy Efficiency Strategic Plan notes that commercial buildings, which include schools, hospitals, and public buildings, consume more electricity than any other end-use sector in California.

The CPUC and the California Energy Commission have adopted the following goals to achieve zero net energy (ZNE) levels by 2030 in the commercial sector:

- Goal 1: New construction will increasingly embrace zero net energy performance (including clean, distributed generation), reaching 100 percent penetration of new starts in 2030.
- Goal 2: 50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.
- Goal 3: Transform the commercial lighting market through technological advancement and innovative utility initiatives.

California Energy Code

The State of California provides a minimum standard for energy conservation through Title 24 of the California Code of Regulations (CCR), commonly referred to as the "California Energy Code." The California Energy Code was adopted by the California Energy Resources Conservation and Development Commission in June 1977 and revised in 2008 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On May 31, 2012, the California Energy Code adopted the 2013 Building and Energy Efficiency Standards, which went into effect on January 1, 2014. Buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses.

California Green Building Standards Code

CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The mandatory provisions of CALGreen became effective January 1, 2011. The building efficiency standards are enforced through the local building permit process. The Code was updated again in 2016, effective January 1, 2017.

The purpose of CALGreen is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories:

- Planning and design.
- Energy efficiency.
- Water efficiency and conservation.
- Material conservation and resource efficiency.
- Environmental quality.

The provisions of CALGreen apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure, unless otherwise indicated in the code, throughout the state of California.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608) were adopted by the California Energy Code on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non-federally regulated appliances. Though these regulations are now often viewed as "business-as-usual," they exceed the standards imposed by all other states and they reduce GHG emissions by reducing energy demand.

Governor's Green Building Executive Order

In 2004, Executive Order S-20-04 was signed by the Governor, committing the State to take aggressive action to reduce state building electricity usage by retrofitting, building, and operating the most energy and resource-efficient buildings by taking all cost-effective measures described in the Green Building Action Plan for facilities owned, funded or leased by the State and to encourage cities, counties, and schools to do the same. It also calls for State agencies, departments, and other entities under the direct executive authority of the Governor to cooperate in taking measures to reduce grid-based energy purchases for State-owned buildings by 20 percent by 2015, through cost-effective efficiency measures and distributed generation technologies. These measures should include, but are not limited to:

- Designing, constructing and operating all new and renovated State-owned facilities paid for with State funds as "Leadership in Energy and Environmental Design Silver" or higher certified buildings;
- Identifying the most appropriate financing and project delivery mechanisms to achieve these goals;
- Seeking out office space leases in buildings with a EPA Energy Star rating; and
- Purchasing or operating Energy Star electrical equipment whenever cost-effective.

Renewable Portfolio Standard

Signed into law in 2011, SB X1-2 directs CPUC's Renewable Energy Resources Program to increase the amount of electricity generated from eligible renewable energy resources per year to an amount that equals at least 20 percent of the total electricity sold to retail customers in California per year by December 31, 2013, 25 percent by December 31, 2016 and 33 percent by December 31, 2020. SB X1-2 codifies the 33 percent by 2020 renewable portfolio standard (RPS) *goal* established pursuant to the Global Warming Solutions Act of 2006. This new RPS applies to all electricity retailers in the state, including publicly-owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators.

Senate Bill 100 (Chapter 312, Statutes of 2018)

On September 10, 2018, Governor Brown signed SB 100, which raises California's RPS requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

AB 1493 Pavley Regulations and Fuel Efficiency Standards

California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards phase in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in about a 22 percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards will result in about a 30 percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program referred to as LEV III or the Advanced Clean Cars program. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero- emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

Local Regulations

City of Concord 2030 General Plan

The City of Concord General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the project. The following goal, principle, and policy are relevant to the proposed project:

- Goal E-7: Development of the Concord Reuse Project Area in a Manner that Creates Jobs, Has Positive Fiscal Impacts, and Provides Economic Benefits for Concord Residents and Businesses.
- Principle E-7.1: Transform the Concord Reuse Project Area into a Dynamic Transit-Oriented Community and Workplace that Redefines Concord's Role in the Bay Area Economy.
    - Policy E-7.1.4: Incorporate principles of sustainable development in the design and operation of workplaces at the Concord Reuse Project area, with an emphasis on green building, low impact development, green jobs, environmentally-friendly business practices, and non-polluting commute modes.

Concord Reuse Project Area Plan

The Concord Reuse Project Area Plan includes the following principles and policies applicable to the proposed project:

- Principle CFP-1: Provide facilities and services which meet the educational, recreational, social, and cultural needs of the communities of the CRP [Concord Reuse Project] area and the City of Concord.
  - Policy CFP-1.3: Green Construction. Incorporate 'green' design and construction practices in the development of new community facilities, including the conservation and efficient use of water, energy, and building materials.
- Principle U-7: Provide reliable energy services to the CRP area while supporting efforts to attain high levels of energy efficiency, conservation, and renewable supply.
  - Policy U-7.1: Coordination with PG&E. Coordinate development planning and approval with PG&E to ensure prior to occupancy that electricity and natural gas facilities will be adequate to serve development. The City shall provide PG&E with the development data necessary to make such determinations.

City of Concord Municipal Code

The City of Concord Municipal Code, organized by title, chapter, and section, contains all ordinances for Concord. Title 15, Buildings and Building Regulations, include regulations relevant to energy conservation in Concord as discussed below.

- Chapter 15.47, Energy Code. Chapter 15.47 adopts the 2016 California Energy Code by reference.
- Chapter 15.45, Green Building Standards Code. Chapter 15.45 adopts the 2016 California Green Building Standards Code by reference.

City of Concord Climate Change Action Plan[1]

The City adopted its CAP to reduce GHG emissions on July 23, 2013. The CAP recommends various renewable energy, energy efficiency and energy conservation strategies over the five-year period from 2020 to 2035 that are relevant to the proposed project, including:

- Adopt Tier I Reach Code above State Green Building Ordinance requirements.
- Conduct energy audits of existing buildings.
- Facilitate on-site renewable energy.
- Reduce emissions from building construction by using cleaner fuels and equipment.
- Develop citywide parking lot shading regulations to reduce heat island effect and thereby lower local temperatures.

[1] City of Concord, *Citywide Climate Action Plan,* 2013, http://www.cityofconcord.org/pdf/dept/planning/climate.pdf, accessed on March 13, 2018.

- Require paving that meets minimum Solar Reflectance Index (SRI) values that are higher than conventional paving in new developments and significant retrofit projects.

4.5.1.2 EXISTING CONDITIONS

Electricity

Grid electricity and natural gas service in Concord is provided by Pacific Gas & Electric (PG&E). PG&E is a publicly-traded utility company that generates, purchases, and transmits energy under contract with the California Public Utilities Commission. PG&E's service territory is 70,000 square miles in area, roughly extending north to south from Eureka to Bakersfield, and east to west from the Sierra Nevada mountain range to the Pacific Ocean.[2]

PG&E's electricity distribution system consists of 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines. PG&E electricity is generated by a combination of sources such as coal-fired power plants, nuclear power plants, and hydro-electric dams, as well as newer sources of energy such as wind turbines and photovoltaic plants or "solar farms." "The Grid," or bulk electric grid, is a network of high-voltage transmission lines link power plants with the PG&E system. The distribution system, comprised of lower voltage secondary lines, is at the street and neighborhood level, and consists of overhead or underground distribution lines, transformers, and individual service "drops" that connect to the individual customer.

PG&E produces or buys its energy from a number of conventional and renewable generating sources, which travel through PG&E's electric transmission and distribution systems. The power mix PG&E provided to customers in 2016 consisted of non-emitting nuclear generation (24 percent), large hydroelectric facilities (12 percent) and eligible renewable resources (33 percent), such as wind, geothermal, biomass, solar and small hydro.[3] The remaining portion came from natural gas (17 percent) and unspecified power (14 percent). Unspecified power refers to electricity that is not traceable to specific generation sources by any auditable contract trail. In addition, PG&E has plans to increase the use of renewable power. For instance, PG&E purchases power from customers that install small-scale renewable generators (e.g., wind turbines or photovoltaic cells) up to 1.5 megawatts in size. In 2016, PG&E served 28 percent of their retail electricity sales with renewable power. PG&E's percentage of renewable power currently under contract for 2020 is 33 percent.[4]

In 2015, PG&E's preliminary projected average annual electricity demand growth (mid-demand forecast) between 2015 and 2026 is 1.02 percent.[5] Within the San Francisco Bay planning area (Zone 1) of PG&E's service area the preliminary projected average annual electricity demand growth between 2015 and 2026

[2] Pacific Gas & Electric, 2012, Company Info. http://www.pge.com/about/company/profile/ accessed on February 1, 2016.

[3] Pacific Gas & Electric, 2016, PG&E's 2016 Power Mix, https://www.pge.com/pge_global/local/assets/data/en-us/your-account/your-bill/understand-your-bill/bill-inserts/2017/november/power-content.pdf, accessed on March 2, 2018.

[4] Pacific Gas & Electric, 2018, Exploring Clean Energy Solutions, https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page, accessed on March 2, 2018.

[5] California Energy Commission, 2016, California Energy Demand Updated Forecast 2017-2027, Electricity Demand Forecast, December 2016, file:///L:/ERPD-02.0/02_BackgroundData/Outside%20Document%20Library/CEQA_BackgroundDocs/UtilSvcSys/TN214635_20161205T142341_California_Energy_Demand_Updated_Forecast.pdf, accessed on April 30, 2018.

is 1.05 percent. Energy providers in the State project demand by assuming future economic growth and taking into account projects such as the proposed project.

The existing electrical system in the project site consists of an overhead facility along the western edge of the project site adjacent to Kinne Boulevard.

Natural Gas

PG&E's natural gas (methane) pipe delivery system includes 42,000 miles of distribution pipelines, and 6,700 miles of transportation pipelines. Gas delivered by PG&E originates in gas fields in California, the US Southwest, US Rocky Mountains, and from Canada. Transportation pipelines send natural gas from fields and storage facilities in large pipes under high pressure. The smaller distribution pipelines deliver gas to individual businesses or residences.

PG&E gas transmission pipeline systems serve approximately 4.3 million gas customers in northern and central California. The system is operated under an inspection and monitoring program.[6] The system operates in real time on a 24-hour basis, and includes leak inspections, surveys, and patrols of the pipelines. The Pipeline 2020 program, created in 2010, aims to modernize critical pipeline infrastructure, expand the use of automatic or remotely-operated shut-off valves, catalyze development of next-generation inspection technologies, develop industry-leading best practices, and enhance public safety partnerships with local communities, public officials, and first responders.[7]

The PG&E gas transmission pipeline nearest the project site runs along Kirker Pass Road until the Concord Pavilion, where it continues through undeveloped land within Pittsburg and unincorporated Contra Costa County.[8]

Renewable Energy

PG&E obtains electricity from conventional and renewable sources. In 2017, 20 percent of PG&E's electricity was generated from natural gas and other fuels; 18 percent from large hydroelectric plants; 27 percent from nuclear power; 33 percent from renewable energy sources; and 2 percent from market purchases.[9,10]

[6] Pacific Gas & Electric, 2018, Learn about the PG&E natural gas system, https://www.pge.com/en_US/safety/how-the-system-works/natural-gas-system-overview/natural-gas-system-overview.page, accessed on March 2, 2018.

[7] Pacific Gas & Electric, 2010, News Releases: PG&E Aims to Advance Industry Best Practices, October 12, 2010, https://www.pge.com/en/about/newsroom/newsdetails/index.page?title=20101012_pge_announces_pipeline_2020_program_for_enhancing_natural_gas_pipeline_safety_and_reliability, accessed on March 2, 2018.

[8] Pacific Gas & Electric, 2014, Gas Transmission System Map web page, http://www.pge.com/en/safety/systemworks/gas/transmissionpipelines/index.page, accessed on March 2, 2018.

[9] Renewable sources of electricity generation are solar, wind, biomass and waste, small hydroelectric, and geothermal.

[10] Pacific Gas & Electric, 2018, Where your electricity comes from, https://www.pge.com/pge_global/common/pdfs/your-account/your-bill/understand-your-bill/bill-inserts/2018/10-18_PowerContent.pdf, accessed on July 31, 2019.

4.5.2 STANDARDS OF SIGNIFICANCE

As previously discussed, Appendix F, Energy Conservation, of the CEQA Guidelines, requires a discussion of the potential energy impacts of proposed projects; as of April 2019, there are two thresholds of significance for potential energy impacts in the State CEQA Guidelines. . Therefore, this EIR analysis determines that impacts would be significant if the project would result in a substantial increase in natural gas and electrical service demands that would require the new construction of energy supply facilities and transmission infrastructure or capacity enhancing alterations to existing facilities, paralleling the threshold determinations for other utility and service systems under Appendix G, Environmental Checklist of the CEQA Guidelines. To further the intent of Appendix F, Energy Conservation, relevant, potential impacts listed in that appendix are also incorporated in the evaluation.

Appendix F lists the following possible impacts to energy conservation that should be considered to the extent they are applicable and relevant to a particular project:

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
- The effects of the project on local and regional energy supplies and on requirements for additional capacity.
- The effects of the project on peak and base period demands for electricity and other forms of energy.
- The degree to which the project complies with existing energy standards.
- The effects of the project on energy resources.
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

According to the 2019 Appendix G of the CEQA Guidelines, a project will have a significant effect on the environment if the project would:

1. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
2. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The analysis included in Section 4.5.3 below focuses on discussions related to Appendix F items numbered 2, 4, 5, and 6 listed above. Focus on these potential impacts was done because they are relevant and applicable to the programmatic analysis in this Draft EIR, and the development associated with implementation of the proposed Plan does not represent a unique or energy-intensive use that would be substantially different than other similar projects.

4.5.3 IMPACT DISCUSSION

This section analyzes the project’s potential impacts and cumulative impacts to electric and natural gas services and infrastructure, supply and demand, and energy conservation.

ENE-1	**The project would not result in a substantial increase in natural gas and electrical service demands, and would not require new energy supply facilities and transmission infrastructure or capacity enhancing alterations to existing facilities.**

The proposed project could result in new development potential up to 86 acres of park and recreational uses (including 35 acres within Recreation/Staging Units), and 2,417 acres of conservation open space uses in the former CNWS site, with the remaining acreage acting as a buffer between the park facilities and conservation areas. In comparison to the current use of the site, implementation of the proposed Plan would result in a long-term increase in energy demand, associated primarily with the operation of lighting and heating/cooling in proposed Regional Park buildings. In addition, construction activities would require the use of energy (e.g., electricity and fuel) for various purposes, such as the operation of construction equipment and tools, as well as excavation, grading, demolition, and vehicle travel.

Construction Energy Impacts

Even with energy-saving practices in place, new electrical connections, switches and/or transformers would be required to serve new or renovated structures. Similarly, new gas distribution lines and connections would be necessary. Most of the work would be in existing public rights-of-way or facilities. Although creation of new or re-located gas and electric lines could create short-term construction-related environmental effects (e.g., noise, dust, traffic, temporary service interruption, etc.), the work would be subject to compliance with the City's and PG&E's regulations and standard conditions for new construction related to infrastructure improvements. For example, these regulations and conditions would require gas and electric line construction to include BMPs that require construction areas to minimize dust generation, limit construction noise to daytime hours to limit impacts to sensitive receptors, and use modern equipment to limit emissions. Also, any such work would be subject to compliance with applicable regulations and standard conditions of approval for construction projects, including City permits/review for construction (e.g., grading permits, private development review, or encroachment permits), the City's CAP, and CALGreen requirements.

Construction vehicles consume fuel. As discussed in Chapter 4.7, Greenhouse Gas Emissions, the US EPA updated the existing CAFE standards for vehicular fuel efficiency and GHG emissions in 2012 for model years 2017 to 2025, which include targets for gallons of fuel consumed per mile. While construction activities require a commitment of energy sources, these efficiency standards improve energy security and innovation in clean energy technology and further the goal of conserving energy in the context of project development.

Operation Energy Impacts

The potential future development under the proposed project would result in a long-term increase in energy demand associated with the operation of lighting and space heating/cooling, and vehicle travel. The proposed project is expected to use approximately 11,290 kWh (kilowatt hour) of electricity and

1,438,685 kBtu (kilo British thermal unit) of natural gas annually.[11] The proposed project would be constructed using energy efficient modern building materials and construction practices. The new buildings also would use new modern appliances and equipment, and would comply with the current CALGreen Building Code per CMC Chapter 15.45, which requires the use of recycled construction materials, environmentally sustainable building materials, building designs that reduce the amount of energy used in building heating and cooling systems as compared to conventionally built structures, and landscaping that incorporates water efficient irrigation systems.

Transportation Energy Impacts

Chapter 4.14, Transportation and Traffic, provides an evaluation of the expected vehicle trips generated by the proposed project. The proposed project would potentially generate about 590 typical weekday and 1,300 typical weekend trips, including visitors and employees. As discussed above and in Chapter 4.7, Greenhouse Gas Emissions, the US EPA adopted standards that include targets for gallons of fuel consumed per mile beginning in model year 2011. These standards were extended through model year 2025 through current rulemaking by the US EPA. While future transportation would require a commitment of energy sources, these efficiency standards improve energy security and innovation in clean energy technology and further the goal of conserving energy in the context of project development. In addition, as concluded in Chapter 4.7, Greenhouse Gas Emissions, the proposed project would not result in any significant impacts related to GHG emissions. Furthermore, the Regional Park would be accessible for hikers, bikers, and equestrians from the future regional trail along Mount Diablo Creek and local neighborhood trails that would connect to the North Concord/Martinez Bay Area Rapid Transit (BART) Station. There is also the potential for transit providers (e.g., Central Contra Costa County Transit Authority and Tri Delta Transit) to provide bus connections to link the BART station and the Regional Park. These alternative modes of transportation further reduce fuel consumption.

Renewable Energy Impacts

The proposed project would be within the 70,000-square-mile PG&E service territory for electricity and natural gas generation, transmission and distribution. Due to the proposed project's size and location adjacent to existing development, potential future buildout of the proposed project would not significantly increase energy demands within the service territory and would not require new energy supply facilities or transmission infrastructure. As a result, new energy supply facilities and transmission infrastructure, or capacity-enhancing alterations to existing facilities, would not be required. The proposed project would be required to comply with the applicable regulations (listed above), including the renewable energy measures in the City of Concord CAP and General Plan.

The proposed project would not result in a substantial increase in natural gas and electrical service demands, and would not require substantial new energy supply facilities and transmission infrastructure, or require increases in the capacity of existing energy provision facilities. Therefore, the impact would be *less than significant*.

[11] This values are consistent with *California Emissions Estimator Model User's Guide* of electricity and natural gas, respectively, for commercial uses, from California Air Pollution Control Officers Association (CAPCOA). *California Emissions Estimator Model User's Guide, Version 2013.2*. 2016. Calculations are included in Appendix B of this Draft EIR.

Significance without Mitigation: *Less than significant.*

ENE-2	**The project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.**

Construction

Construction of the proposed project would require the use of construction equipment for grading, hauling, and building activities. Electricity use during construction would vary during different phases of construction—the majority of construction equipment during demolition and grading would be gas or diesel powered, and the later construction phases would require electricity-powered equipment. Construction also includes the vehicles of construction workers traveling to and from the project site and haul trucks for the export of materials from site clearing and the export and import of soil for grading.

The construction contractors are anticipated to minimize idling of construction equipment during construction and reduce construction and demolition waste by recycling. These required practices would limit wasteful and unnecessary electrical energy consumption. Furthermore, there are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in other parts of the state. Furthermore, as indicated in Impact ENE-1 above, construction vehicles for model years 2017 to 2025 are mandated by the CAFE standards. These standards include targets for gallons of fuel consumed per mile. Therefore, the proposed short-term construction activities would not result in inefficient, wasteful, or unnecessary fuel consumption.

Operations

As indicated under Impact ENE-1, new structures would be designed in accordance with the 2016 Building and Energy Efficiency Standards (California Code of Regulations, Title 24, Part 6) and the 2019 California Green Building Code (California Code of Regulations, Title 24, Part 11). The new buildings would also use new energy efficient appliances and equipment and would not result in inefficient, wasteful, or unnecessary electricity and natural gas consumption. The proposed project would also consume transportation energy during operations from the use of motor vehicles. Estimates of transportation energy use are based on the overall vehicle miles traveled (VMT) and related transportation energy use. Project-related VMT would come from employee and visitor vehicle trips; delivery and supply trucks, and trips by maintenance and repair crews. At project buildout (year 2050) the proposed project would increase VMT by 1,689,229 annually. Table 4.5-1 shows the proposed project's annual use of energy based on VMT. As shown in this table, the proposed project would consume 39,561 gallons of fuel per year (gasoline, diesel, and compressed natural gas) and 37,111 kilowatt-hours (kWh) of electricity per year (Refer to Appendix D, *Transportation Energy Use Calculations*).

TABLE 4.5-1 PROJECT OPERATION-RELATED VEHICLE FUEL/ENERGY USAGE

	Gas		Diesel		CNG		Energy[a]	
Total VMT	VMT	Gallons/ Year	VMT	Gallons/ Year	VMT	Gallons/ Year	VMT	kWh/ Year
1,689,229	1,565,767	37,208	30,684	2,353	0	0	92,777	37,111

Notes CNG = compressed natural gas; VMT = vehicle miles traveled; kWh = kilowatt-hour
a. Electricity use from electric vehicles is based on the average electricity consumption available from the U.S. Department of Transportation (DOT), 2017.
Source: CalEEMod 2016.3.2; EMFAC2017.

Although the project would increase annual fuel consumption associated with more trips, average corporate fuel economy would increase as a result of state and federal laws, including the Pavley Advanced Clean Cars program, as well as vehicle turnover, which improves the overall fuel economy of California's vehicle fleets. Therefore, fuel consumption associated with vehicle trips generated by the proposed project would not be considered inefficient, wasteful, or unnecessary.

Significance without Mitigation: *Less than significant.*

ENE-3 The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase the use of eligible renewable energy resources to 33 percent of total procurement by 2020. The project site is currently being serviced by PG&E. In 2017, 33 percent of PG&E's electricity was generated from renewable energy. Therefore, PG&E met California's 2020 renewable energy goal three years ahead of schedule.

The net increase in power demand associated with the proposed project is anticipated to be within the service capabilities of PG&E and would not impede PG&E's ability to implement California's renewable energy goals. Therefore, the proposed project would not obstruct a State or local plan for renewable energy. Additionally, and with reference to Impact ENE-2 above, the proposed project would not obstruct a state or local plan for energy efficiency. Therefore, impacts would be less than significant.

Significance without Mitigation: *Less than significant.*

4.5.4 CUMULATIVE IMPACTS

ENE-4 The project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to energy conservation and renewable energy.

The area considered for cumulative impacts to energy consumption is the service area of PG&E as described above in Section 4.5.1. All of the development projects within the vicinity of the project site,

listed in Chapter 4, are within the service area of PG&E. All these projects would result in a long-term increase in operational energy demand for electricity and natural gas use. In addition, construction activities would require the use of energy for purposes such as the operation of construction equipment and tools, and construction of development projects may overlap. However, all projects developed within the PG&E service area would implement the requirements of the 2016 Building and Energy Efficiency Standards (California Code of Regulations, Title 24, Part 6), the 2019 California Green Building Code (California Code of Regulations, Title 24, Part 11), the City's CAP. New buildings would also use new energy efficient appliances and equipment. Future projects would also implement renewable energy measures as indicated in the City's CAP and General Plan.

Future development would also increase annual fuel consumption. However, vehicles would be subject to the US EPA CAFE standards for vehicular fuel efficiency and average corporate fuel economy continue to increase as a result of state and federal laws, including the Pavley Advanced Clean Cars program. Vehicle turnover also improves the overall fuel economy of California's vehicle fleets.

All of these measures would contribute in minimizing inefficient, wasteful, or unnecessary energy consumption, and ensure compliance with state or local plans for renewable energy and cumulative impacts would be *less than significant*.

Significance without Mitigation: *Less than significant.*

4.6 GEOLOGY AND SOILS

This section evaluates the potential for implementation of the proposed Plan to impact geological and soil resources in the proposed Regional Park. The analysis in this section is based, in part, upon the following sources:

- City of Concord, 2008, Concord Community Reuse Plan, Draft Environmental Impact Report (EIR).
- City of Concord, 2010, Concord Community Reuse Plan, Final EIR.
- City of Concord. 2012, Final EIR Addendum and Initial Study of Environmental Significance for the Concord Reuse Project Area Plan.
- Department of the Navy, Naval Facilities Engineering Command Headquarters, 2014, Draft Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord, Concord.
- TriEco-Tt, A Joint Venture of Tric Eco LLC and Tetra Tech, 2017, Final Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord, Concord California.

4.6.1 ENVIRONMENTAL SETTING

4.6.1.1 REGULATORY FRAMEWORK

State Regulations

California Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was signed into State law in 1972. Its primary purpose is to mitigate the hazard of fault rupture by prohibiting the location of structures for human occupancy across the trace of an active fault. This Act delineates “Earthquake Fault Zones” along faults that are “sufficiently active” and “well defined.” This Act also requires that cities and counties withhold development permits for sites within an earthquake fault zone until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting. Pursuant to this Act, structures for human occupancy are not allowed within 50 feet of the trace of an active fault.

Seismic Hazard Mapping Act

The Seismic Hazard Mapping Act (SHMA) was adopted by the State in 1990 to protect the public from the effects of non-surface fault rupture earthquake hazards, including strong ground shaking, liquefaction, seismically induced landslides, or other ground failure caused by earthquakes. The goal of the SHMA is to minimize loss of life and property by identifying and mitigating seismic hazards. The California Geological Survey prepares and provides local governments with seismic hazard zone maps that identify areas susceptible to amplified shaking, liquefaction, earthquake-induced landslides, and other ground failures. The SHMA requires responsible agencies to only approve projects within seismic hazard zones following a site-specific investigation to determine if the hazard is present, and if so, the inclusion of appropriate

mitigation(s). In addition, the SHMA requires real estate sellers and agents at the time of sale to disclose whether a property is within one of the designated seismic hazard zones.

California Building Code

Current law states that every local agency enforcing building regulations, such as cities and counties, must adopt the provisions of the California Building Code (CBC) (Title 24, Part 2 of the California Code of Regulations) within 180 days of its publication. The publication date of the CBC is established by the California Building Standards Commission. The most recent building standard adopted by the legislature and used throughout California is the 2016 version of the CBC (effective January 1, 2017), often with local, more restrictive amendments that are based on local geographic, topographic, or climatic conditions. These codes provide minimum standards to protect property and public safety by regulating the design and construction of excavations, foundations, building frames, retaining walls, and other building elements to mitigate the effects of seismic shaking and adverse soil conditions. The CBC contains provisions for earthquake safety based on factors including occupancy type, the types of soil and rock on-site, and the strength of ground shaking with specified probability of occurring at a site.

Natural Hazards Disclosure Act

The Natural Hazards Disclosure Act requires that sellers of real property and their agents provide prospective buyers with a "Natural Hazard Disclosure Statement" when the property being sold lies within one or more State-mapped hazard areas, including a Seismic Hazard Zone. California law also requires that when houses built before 1960 are sold, the seller must give the buyer a completed earthquake hazards disclosure report and a booklet titled "The Homeowners Guide to Earthquake Safety." This publication was written and adopted by the California Seismic Safety Commission.

California Environmental Quality Act

The California Environmental Quality Act (CEQA), as *codified in Public Resources Code (PRC) Sections 21000 et seq.,* is the principal statute governing the environmental review of projects in the state. Paleontological resources are afforded protection under CEQA. The Society of Vertebrate Paleontology (SVP) has set significance criteria for paleontological resources (1995).[1] Most practicing professional vertebrate paleontologists adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most state regulatory agencies with paleontological laws, ordinances, regulations, and standards accept and use the professional standards set forth by the SVP.

California Public Resources Code Section 5097

Public Resources Code (PRC) Section 5097.5 prohibits the removal of any paleontological site or feature from public lands without the permission of the jurisdictional agency.

[1] Society of Vertebrate Paleontology, 2010, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee.

California Penal Code Section 622.5

The California Penal Code Section 622.5 details the penalties for damage or removal of paleontological resources.

District Regulations

East Bay Regional Park District Master Plan (2013)

The East Bay Regional Park District (District) Master Plan, adopted July 16, 2013, provides policy direction for resource stewardship and development of parks within the jurisdiction of the District. The Master Plan also includes a vision, a mission statement, as well as policies and goals protecting geologic resources and soils, in the Natural and Resources Management section.

Policy NRM 13 is as follows:

- NRM 13: Geology, Soils and Paleontology – The District will identify existing and potential erosion problems and take corrective measures to repair damage and mitigate its causes. The District will manage the parks to assure that an adequate cover of vegetation remains on the ground to provide soil protection. Where vegetative cover has been reduced or eliminated, the District will take steps to restore it using native or naturalized plants adapted to the site. The District will minimize soil disturbance in areas with unstable soils whenever possible. The District will arrest the progress of active gully erosion where practical, and take action to restore these areas to stable conditions. The District will notify adjacent property owners of potential landslide situations and risks on District lands, and will conform with applicable law. The District will protect important geological and paleontological features from vandalism and misuse.

Local Regulations

Contra Costa County / City of Concord Local Hazard Mitigation Plan

Contra Costa County Office of Emergency Services and 12 incorporated cities in the County, including the City of Concord, worked together to create a county-wide Local Hazard Mitigation Plan, which includes the City of Concord[2]. The purpose of the Local Hazard Mitigation Plan is to enable the County and the City of Concord to take ongoing action to reduce or eliminate long-term risks to human life, property, and the environment from many types of natural hazards, such as earthquakes, which the City ranks as its highest "Hazard Risk". The plan was adopted by the City of Concord, but does not have specific policies for the Concord Naval Weapons Station.

[2] https://www.contracosta.ca.gov/6415/Local-Hazard-Mitigation-Plan. See Volume 2 Planning Partner Annexes.

Local Regulations

Concord 2030 General Plan

The City of Concord's General Plan includes goals, principles, and policies relevant to the environmental factors potentially affected by the proposed project, including the following:

- Goal S-3: A High Level of Life and Property Protection
- Principle S-3.1: Reduce Damage Due to Seismic Hazards.
  - Policy S-3.1.1: Require as part of the development review process a thorough evaluation of geologic-seismic and soils conditions and risks.
  - Policy S-3.1.2: Require all new development to design structures and building pursuant to applicable state and local codes. (These codes include seismic design criteria).
  - Policy S-3.1.3: Require geologic studies to be conducted for all structures, including those not for human occupancy, located above and below ground whenever a project is located within an Earthquake Fault Zone as identified by the California Geologic [sic] Survey.
  - Policy S-3.1.5: Cooperate with appropriate government agencies and public and private organizations to address seismic hazards.
- Principle S-3.2: Minimize the Effects of Landslides and Ground Failure.
  - Policy S-3.2.1: Require all development on hillsides where the grade exceeds 15 percent to submit a hillside development (i.e., grading) plan that demonstrates contoured grading techniques to ensure that buildings, streets, and drives can be accommodated safely with a minimum amount of grading.
  - Policy S-3.2.2: Restrict development on hillsides with slopes over 30 percent. Where slopes over 30 percent occur within areas shown for development on the General Plan Diagram, they should be set aside as open space where feasible.
  - Policy S-3.2.3: Require soils and geologic hazards analysis and mitigation as part of development project review.
  - Policy S-3.2.4: Regulate all development, including remodeling or structural rehabilitation, to assure adequate mitigation of safety hazards on sites having a history or threat of slope instability, erosion, subsidence, ground failure, ground rupture, and/or liquefaction.
  - Policy S-3.2.5: Control erosion of graded areas with revegetation or other acceptable methods.

Concord Municipal Code

The City of Concord Municipal Code, organized by title, chapter, and section, contains all ordinances for Concord. Title 16, Environment, and Title 18 Development Code, include regulations relevant to geology in Concord as discussed below.

- Chapter 16.10 Grading, Erosion, and Sedimentation Control. Chapter 16.10 of the City's Municipal Code establishes grading standards to prevent erosion.

- Chapter 18.300 Hillside Protection. Chapter 18.300 of the City's Municipal Code establishes regulations to minimize impacts to hillside development and risk of personal injury and damage to property from landslides, erosion, earth creep, stormwater runoff, and other hazards in and near hillside areas of the city.

4.6.1.2 EXISTING CONDITIONS

Geologic Setting and Seismicity

The project site is situated in the Coast Ranges Geomorphic Province, a long region of moderate relief containing many elongate ridges and narrow valleys that are approximately parallel to the coast. This geomorphic province encompasses an area that extends about 600 miles from the Oregon border to the Santa Ynez River and is subdivided into the ranges north of San Francisco Bay and the ranges south of the bay to Santa Barbara County.[3] The project site elevations range from approximately 100 feet above mean sea level at the western border to 1,000 feet above mean sea level at the eastern border. The south-western portion of the site is located in the Clayton Valley, which consists of gently sloping lowlands and hilly terrain ranging in elevation from sea level to 400 feet. The floor of the valley slopes gently toward the northwest. The northeast portion of the site is located within the Los Medanos Hills, which have peak elevations ranging from 800 feet in the lower hills to greater than 1,400 feet. The Los Medanos Hills have significant topographic relief including steep hill slopes of over 50 percent.

Native soil deposits within the Clayton Valley include Holocene and Pleistocene age alluvial fan and fluvial deposits, Holocene floodplain deposits, Holocene stream channel deposits, and undifferentiated Pliocene/Pleistocene continental gravels.[4] The upland areas along the Los Medanos Hills are generally composed of Tertiary and Cretaceous age sandstone, shale and mudstone bedrock units.[5,6,7] Soil deposits in the area are as follows:[8]

- *Alluvial fan and fluvial deposits (Holocene):* Alluvial fan deposits are brown or tan, medium dense to dense, gravelly sand or sandy gravel that generally grades upward to sandy or silty clay. Near the distal fan edges, the fluvial deposits are typically brown, medium dense sand that fines upward to sandy or silty clay.
- *Floodplain deposits (Holocene):* Floodplain deposits are medium to dark gray, dense, sandy to silty clay. Lenses of coarser material (silt, sand and pebbles) may be locally present.

[3] Norris, R.M. and R.W. Webb, 1990, Geology of California, Second Edition, John Wiley & Sons, Inc., New York.

[4] Helley, E.J. and R.W. Graymer, 1997, Quaternary Geology of Contra Costa County, California, and Surrounding Areas: Derived from the Digital Database Open-File 97-98, U.S. Geological Survey Open-File Report 97-98, scale 1:100,000.

[5] Wagner, D.L. and E.J. Bortugno, 1999, Geologic Map of the Santa Rosa Quadrangle, California Geological Survey Regional Geologic Map Series, Map No. 2A (Geology), scale 1:250,000.

[6] Wagner, D.L., C.W. Jennings, T.L. Bedrossian, and E.J. Bortugno, 1987, Geologic Map of the Sacramento Quadrangle, California Geological Survey Regional Geologic Map Series, Map No. 1A (Geology), scale 1:250,000.

[7] Wagner, D.L., E.J. Bortugno, and R.D. McJunkin, 1991, Geologic Map of the San Francisco-San Jose Quadrangle, California. California Geological Survey Regional Geologic Map Series, Map No. 5A (Geology), scale 1:250,000.

[8] Helley, E.J. and R.W. Graymer, 1997, Quaternary Geology of Contra Costa County, California, and Surrounding Areas: Derived from the Digital Database Open-File 97-98, U.S. Geological Survey Open-File Report 97-98, scale 1:100,000.

- *Stream channel deposits (Holocene):* Stream channel deposits are poorly to well-sorted sand, silt, silty sand, or sandy gravel with minor cobbles. Cobbles are more common in the valleys.
- *Alluvial fans and fluvial deposits (Pleistocene):* Alluvial fans and fluvial deposits are brown, dense gravelly and clayey sand, or clayey gravel that fines upward to sandy clay. These deposits display various sorting and are located along most stream channels in Contra Costa County. All of these deposits can be related to modern stream courses. They are distinguished from younger alluvial fans and fluvial deposits by higher topographic position, a greater degree of dissection, and stronger soil profile development. They are less permeable than Holocene deposits, and are overlain by Holocene deposits on lower parts of the alluvial plain.
- *Undifferentiated continental gravels (Plio-Pleistocene):* Undifferentiated continental gravels are semi-consolidated to unconsolidated poorly sorted gravel, sand, silt and clay. These deposits are unrelated to modern drainages.

The project site is located in the seismically active San Francisco Bay region, which has experienced repeated moderate to large earthquakes. Notable historic seismic events affecting the area are presented in Table 4.6-1. As shown in Table 4.6-1, the Clayton section of the Greenville Fault traverses the site. The fault crosses the site near the southwest base of the Los Medanos Hills. There is no record of historic earthquakes on this section of the fault, and the fault has been interpreted to have a low slip rate based on geomorphic evidence.[9]

A 2003 estimate made by the Working Group on California Earthquake Probabilities gave a 62 percent probability for one or more magnitude 6.7 or greater earthquakes to occur within the Bay Area in the 30-year period between 2002 and 2031.[10]

Paleontological Setting

Paleontological resources are the fossilized remains of plants and animals, including vertebrates (animals with backbones), invertebrates (e.g., starfish, clams, ammonites, and marine coral), microscopic plants and animals (microfossils), and trace fossils (footprints, burrows, etc.). Fossils are preserved in sedimentary rocks, which are the most abundant rock type exposed at the surface of the earth. Despite the abundance of these rocks, and the vast numbers of organisms that have lived through time, preservation of plant or animal remains as fossils is a rare occurrence. In many cases, fossils of animals and plants occur only in limited areas and in small numbers relative to the distribution of the living organisms they represent. In particular, fossils of vertebrates—animals with backbones—are sufficiently rare to be considered nonrenewable resources. The Society of Vertebrate Paleontology (SVP) defines a significant fossil resource as, "identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older

[9] Bortugno, E.J., R.D. McJunkin, and D.L. Wagner, 1991, Map Showing Recency of Faulting, San Francisco-San Jose Quadrangle, California. California Geological Survey Regional Geologic Map Series, Map No. 5A , Sheet 5, scale 1:250,000.

[10] Working Group on California Earthquake Probabilities, 2003, Earthquake Probabilities in the San Francisco Bay Region: 2002-2031. U.S. Geological Survey Open-File Report 03-214 located at https://pubs.usgs.gov/of/2003/of03-214/OFR-03-214_FullText.pdf, accessed on May 10, 2018.

TABLE 4.6-1 SIGNIFICANT FAULTS NEAR THE SITE

Active Fault	Distance/Direction from Site	Recent Movement	Historical Seismicity (M)[a]	Mw[b]
Greenville: Clayton section	Bisects	Late Quaternary	Slip rate 0.004-0.0008 inches/year	6.25
Concord-Green Valley	1 mile southwest	Historic (1955) Holocene	M 5.4, 1955 Historic active creep	6.9
Mount Diablo Thrust	10 miles south	Holocene (Late Quaternary)	Slip rate 0.12 inches/year	6.6
Greenville: Marsh Creek-Greenville Section	11.3 miles southeast	Historic (1980)	M 5.6, 1980	6.9
West Napa	14 miles northwest	Historic (2014)	M 5.2, 2000, M 6.0, 2014	6.5
Hayward	15 miles west	Historic (1836, 1868)	M 6.8, 1868, Many <M 4.5	7.1
Calaveras	17 miles south	Historic (1861), Holocene	M 5.6-M 6.4, 1861, M 4-M 4.5, swarms 1970, 1990	6.8
Rodgers Creek	24 miles northwest	Holocene	M 6.7, 1898, M 5.6, M 5.7, 1969, Historic active creep	7.0
San Andreas	34 miles west	Historic (1906, 1989)	M 7.0, 1838, M 7.9, 1906, M 7.1, 1989 Many <M 4.5	7.9

Note: M = Richter magnitude; Mw = moment magnitude.
a. Richter magnitude and year for recent and/or large events. The Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave.
b. Moment magnitude is related to the physical size of a fault rupture and movement across a fault. Moment magnitude provides a physically meaningful measure of the size of a faulting event. The maximum moment magnitude earthquake is derived from the "Probabilistic Seismic Hazard Assessment for the State of California." Cao, T., W.A. Bryant, B. Rowshandel, D. Branum, and C. J. Wills, 2003, The Revised 2002 California Probabilistic Seismic Hazard Maps, http://www.conservation.ca.gov/cgs/rghm/psha/fault_parameters/pdf/Documents/2002_ca_hazard_maps.pdf, ` on May 10, 2018.
Sources: Jennings, C.W. and W.A. Bryant, 2010. Fault Activity Map of California, California Geological Survey California Geologic Data Map Series, Map No. 6, scale 1:750,000; U.S. Geological Survey, 2014, M6.0 South Napa, California Earthquake of 24 August 2014, https://earthquake.usgs.gov/archive/product/poster/20140824/us/1480721358422/poster.pdf, accessed on May 10, 2018.

than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years)."[11]

The age and abundance of fossils depend on the location, topographic setting, and particular geologic formation in which they are found. Fossil discoveries not only provide a historical record of past plant and animal life but can assist geologists in dating rock formations. Fossil discoveries can expand understanding of the time periods and the geographic range of existing and extinct flora and fauna.

[11] Society of Vertebrate Paleontology, 2010*, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources,* page 11. Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee.

The SVP established guidelines for the identification, assessment, and mitigation of adverse impacts on nonrenewable paleontological resources.[12] Most practicing paleontologists in the United States adhere closely to the SVP's guidelines, which were approved through a consensus of professional paleontologists. Many federal, State, county, and city agencies have either formally or informally adopted the SVP's standard guidelines for the mitigation of adverse construction-related impacts on paleontological resources. The SVP has helped define the value of paleontological resources and, in particular, indicates that geologic units of high paleontological potential are those from which vertebrate or significant invertebrate or plant fossils have been recovered in the past (i.e., are represented in institutional collections). Geologic units of low paleontological potential are those that are not known to have produced a substantial body of significant paleontological material. Accordingly, the sensitivity of an area with respect to paleontological resources hinges on its geologic setting and whether significant fossils have been discovered in the area or in similar geologic units.

The SVP further states the following:

- Vertebrate fossils and fossiliferous deposits are considered significant nonrenewable paleontological resources, and are afforded protection by federal, State, and local environmental laws and guidelines.
- A paleontological resource is considered to be older than recorded history or 5,000 years before present and should not be confused with archaeological resource sites.
- Certain plant or invertebrate fossils may be designated as significant by a project paleontologist, special interest group, lead agency, or local government.

With these principles, the SVP has outlined criteria for screening the paleontological potential of rock units and established assessment and mitigation procedures tailored to such potential.[13] Table 4.6-2 lists the criteria for high-potential, undetermined, and low-potential rock units.

It is important to note that while paleontological potential as defined above can provide a rough idea of whether subsurface fossils may exist, the uniqueness or significance of a fossil locality is unknown until it is identified to a reasonably precise level.[14] Therefore, any fossil discovery should be treated as potentially unique or significant until determined otherwise by a professional paleontologist.

The project site is located in the Coastal Ranges Geomorphic Province, which consist of northwest-trending mountain ranges and valleys that run along the Pacific coast from Santa Barbara to the Oregon border and preserve a thick sequence of sedimentary strata dating back to the Mesozoic (approximately 251 million years ago) overlying granitic and metamorphic bedrock.[15] These sedimentary rocks have a rich fossil history in central California, recording the filling of offshore basins dating to the Mesozoic followed

[12] Society of Vertebrate Paleontology, 2010, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources, page 11. Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee.

[13] Society of Vertebrate Paleontology, 2010, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee.

[14] Scott and Springer, 2003, CEQA and Fossil Preservation in California, AEP Spring CEQA Workshop Series, The Environmental Monitor, Fall.

[15] Norris, R.M. and R.W. Webb, 1990*, Geology of California,* second edition: John Wiley & Sons, New York.

TABLE 4.6-2 PALEONTOLOGICAL POTENTIAL CRITERIA

Paleontological Potential	Description
High	Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have high potential. Rocks units classified as having high potential for producing paleontological resources include, but are not limited to, sedimentary formations and some volcaniclastic formations (e.g., ashes or tephras), and some low-grade metamorphic rocks which contain significant paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils (e.g., middle Holocene and older, fine-grained fluvial sandstones, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstones, fine-grained marine sandstones, etc.). Paleontological potential consists of both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, plant, or trace fossils and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data. Rock units which contain potentially datable organic remains older than late Holocene, including deposits associated with animal nests or middens, and rock units which may contain new vertebrate deposits, traces, or trackways are also classified as having high potential.
Undetermined	Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources. A field survey by a qualified professional paleontologist to specifically determine the paleontological resource potential of these rock units is required before a paleontological resource impact mitigation program can be developed.
Low	Geologic units that are not known to have produced a substantial body of significant paleontological material, as demonstrated by paleontological literature and prior field surveys, and which are poorly represented in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule, e g. basalt flows or recent colluvium, and considered to have low potential.

Source: Society of Vertebrate Paleontology (SVP), 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee.

by the progressively shallowing sea and the emergence of terrestrial environments in the Miocene up through the Pleistocene Ice Ages, marked by intervals of sea level rise and fall.[16]

Geologic Hazards

Expansive Soils

Expansive soils shrink or swell as the moisture content decreases or increases. Structures built on these soils may experience shifting, cracking, and breaking damage as soils shrink and subside or expand. Based on the presence of alluvial materials within the site, there is some potential for expansive soils.[17]

[16] Norris, R.M. and R.W. Webb, 1990, Geology of California, second edition: John Wiley & Sons, New York.

[17] U.S. Department of Agriculture, Natural Resources Conservation Service, 2018, Web Soil Survey, https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx, accessed on May 10, 2018.

Subsidence

The phenomenon of widespread land sinking, or subsidence, is generally related to substantial overdraft of groundwater or petroleum reserves from underground reservoirs. Gas production wells are present within the project site boundaries within the Willow Pass Gas Field and the Mulligan Hill Gas Field, both of which are abandoned. Based on California Department of Water Resources' estimation of low potential for future land subsidence[18] in the site vicinity, subsidence is not considered to be a significant potential hazard on the site.

Slope Failure

Landslides are perceptible downward movements of a mass of earth (soil and/or debris), rock or a combination of the two under the influence of gravity. Landslide materials are commonly porous and very weathered in the upper portions and along the margins of the slide. They may also have open fractures or joints. Slope failures can occur during or after periods of intense rainfall or in response to strong seismic shaking. Areas of high topographic relief, such as steep canyon walls, are most likely to be impacted by slope failure. Landslides, earthflows, and debris flows are relatively common features along the ridges and hillsides of the Los Medanos Hills within the site boundaries.

Seismic Hazards

Strong Seismic Ground Shaking

Earthquakes are common to northern California, and geologic evidence is used to determine the likelihood of future ruptures along a fault. The amplitudes of earthquake waves are measured on the Richter Scale. Each one-point increase in magnitude represents a ten-fold increase in wave amplitude and a 32-fold increase in energy. That is, a Magnitude (M) 7 earthquake produces 100 times (10 x 10) the ground motion amplitude of an M 5 earthquake, and releases over 1,000 times (32 x 32) more energy.

Peak horizontal ground acceleration values that could be expected at this location are based on types and characteristics of fault sources, distances and estimated maximum earthquake magnitude and subsurface site geology. The accuracy of the peak horizontal ground acceleration estimate would depend upon the method of determination. The maximum magnitude earthquake is considered to be the largest earthquake that is expected to occur along a fault under the current tectonic framework and is based in part on various fault characteristics (length, style of faulting and historic seismicity). The Greenville and Concord faults are the dominant active faults that could be expected to significantly impact the site.

[18] California Department of Water Resources, 2015, Summary of Recent, Historical, and Estimated Potential for Future Land Subsidence in California's Groundwater Update 2013, https://www.water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Data-and-Tools/Files/Statewide-Reports/California-Groundwater-Update-2013/California-Groundwater-Update-2013---Statewide.pdf, accessed on May 9, 2018.

Liquefaction and Related Ground Failure

Liquefaction is a process whereby strong earthquake shaking causes sediment layers that are saturated with groundwater to lose strength and behave as a fluid. This subsurface process can lead to near-surface or surface ground failure that can result in property damage and structural failure. If surface ground failure does occur, it is usually expressed as lateral spreading, flow failures, ground oscillation, and/or general loss of bearing strength. Sand boils (injections of fluidized sediment) can commonly accompany these different types of failure. In order to determine a region's susceptibility to liquefaction, the following three major factors must be analyzed:

- The intensity and duration of ground shaking.
- The age and textural characteristic of the alluvial sediments: Generally, the younger, less well compacted sediments tend to have a higher susceptibility to liquefaction. Textural characteristics also play a dominant role in determining liquefaction susceptibility. Sand and silty sands deposited in river channels and floodplains tend to be more susceptible to liquefaction and floodplains tend to be more susceptible to liquefaction than coarser or finer grained alluvial materials.
- The depth to the groundwater. Groundwater saturation of sediments is required in order for earthquake induced liquefaction to occur. In general, groundwater depths shallower than 10 feet to the surface can cause the highest liquefaction susceptibility.

Research and historical data indicate that loose, granular materials at depths of less than 50 feet with silt and clay contents of less than 30 percent saturated by relatively shallow groundwater table are most susceptible to liquefaction. The areas with the highest potential for liquefaction on the site are generally Holocene stream channel deposits. Holocene and Pleistocene alluvial fan and fluvial deposits, located adjacent to Mount Diablo Creek and extended from approximately a mile south of Willow Pass Road to Kirker Pass Road, have a high liquefaction potential. In addition, alluvial deposits near East Olivera Road between State Route 4 and Willow Pass Road and along Mount Diablo Creek have a moderate liquefaction potential.

Paleontological Resources

Known Resources and Sensitivity Assessment

The online collections database of the University of California Museum of Paleontology (UCMP) was searched for fossil localities from geologic units mapped as occurring in the project site. Data provided through the UCMP's online database includes taxonomic identification, locality number and name, age, and county, and geologic formation. Precise locality data is not provided; however, in some cases the locality name can be used to further refine the general vicinity of the locality within the county. The results of this search are as follows:

- Holocene Alluvium: As discussed above, Holocene-aged alluvium is too young to preserve fossil resources in its upper layers, but increases in age with depth and may therefore preserve fossils similar to those in Older Alluvium in the subsurface. Therefore, Holocene Alluvium has low-to-high paleontological potential, increasing with depth. While the exact depth of this transition is not known

for the project site, fossil discoveries in similar sediments indicate it may be as shallow as 5-10 feet below ground surface.[19,20]

- Landslide Deposits: As discussed above, landslide deposits form in a way that is both too young and unlikely to preserve fossil resources. Therefore, these sediments are assigned low paleontological potential. However, landslide deposits overlie the Markley and Kreyenhagen formations in the project site, and so ground disturbing activities that exceed the depth of the landslide deposits risk impacting those underlying units.
- Older Alluvium: The UCMP database lists 9,927 vertebrate fossil specimens and seven invertebrate fossil specimens from 56 localities in Pleistocene-aged sediments in Contra Costa County.[21] Of the localities for which more precise location could be inferred from the locality name, several are located within 10 miles of the project site. Of these, Pacheco 1 and 2 are the most fossiliferous, with 6,929 specimens of mammals, birds, reptiles, and amphibians collected from Pacheco, approximately 5 miles west of the project site.[22] Due to the established presence of abundant fossil resources in this unit in Contra Costa County and elsewhere across central California, Older Alluvium is assigned high paleontological potential.
- Oro Loma Formation: The UCMP database does not list any fossil specimens in the collection from the Oro Formation. While the Oro Loma Formation is of an age and represents a depositional setting conducive to the preservation of fossil resources, there is no information available in the literature or the UCMP collections to indicate fossils have ever been found in this unit. At this time, therefore, the Oro Loma Formation is assigned low paleontological potential.
- Markley Formation: The UCMP database has records of four vertebrate and 105 invertebrate fossils from 16 localities in the Markley Formation in Contra Costa County.[23] Of the localities for which more precise location could be inferred from the locality name, many are located in Markley Canyon, approximately 6.6 miles east of the project site.[24] The vertebrate fossils in the UCMP collection are all fish, while the invertebrates are gastropod and bivalve mollusks.[25] The record of the preservation of scientifically significant fossils in the Markley Formation presented in the literature and in the collections of the UCMP indicate that this unit has high paleontological potential.

[19] Jefferson, G.T., 1991, A catalogue of Late Quaternary Vertebrates from California: Part One, nonmarine lower vertebrate and avian taxa. Natural History Museum of Los Angeles County Technical Reports No. 5.

[20] Jefferson, G.T., 1991, A catalogue of Late Quaternary Vertebrates from California: Part Two, Mammals. Natural History Museum of Los Angeles County Technical Reports No. 7.

[21] University of California Museum of Paleontology, Collections Database Search Results, http://www.ucmp.berkeley.edu/science/collections.php, accessed on April 2018.

[22] University of California Museum of Paleontology, Collections Database Search Results, http://www.ucmp.berkeley.edu/science/collections.php, accessed on April 2018.

[23] University of California Museum of Paleontology, Collections Database Search Results, http://www.ucmp.berkeley.edu/science/collections.php, accessed on April 2018.

[24] University of California Museum of Paleontology, Collections Database Search Results, http://www.ucmp.berkeley.edu/science/collections.php, accessed on April 2018.

[25] University of California Museum of Paleontology, Collections Database Search Results, http://www.ucmp.berkeley.edu/science/collections.php, accessed on April 2018.

- Kreyenhagen Formation: The UCMP database has records of 37 vertebrate fossils from two localities in the Kreyenhagen Formation in Contra Costa County.[26] Both localities appear to be located in or around Byron, California, approximately 20 miles southeast of the project site.[27] The vertebrate fossils in the UCMP collection are primarily fish, with one bird fossil listed.[28] The record of the preservation of scientifically significant fossils in the Markley Formation presented in the literature and in the collections of the UCMP indicate that this unit has high paleontological potential.

Known Resources and Sensitivity Assessment

The online collections database of the University of California Museum of Paleontology (UCMP) was searched for fossil localities from geologic units mapped as occurring in the project site. The results of this search are as follows:

- Holocene Alluvium: Holocene Alluvium has low-to-high paleontological potential, increasing with depth. While the exact depth of this transition is not known for the project site, fossil discoveries in similar sediments indicate it may be as shallow as 5-10 feet below ground surface.[29,30]
- Landslide Deposits: Landslide deposits overlie the Markley and Kreyenhagen formations in the project site, and so ground disturbing activities that exceed the depth of the landslide deposits risk impacting those underlying units.
- Older Alluvium: The UCMP database lists 9,927 vertebrate fossil specimens and seven invertebrate fossil specimens from 56 localities in Pleistocene-aged sediments in Contra Costa County.[31] Due to the established presence of abundant fossil resources in this unit in Contra Costa County and elsewhere across central California, Older Alluvium is assigned high paleontological potential.
- Oro Loma Formation: While the Oro Loma Formation is of an age and represents a depositional setting conducive to the preservation of fossil resources, there is no information available in the literature or the UCMP collections to indicate fossils have ever been found in this unit. At this time, therefore, the Oro Loma Formation is assigned low paleontological potential.
- Markley Formation: The record of the preservation of scientifically significant fossils in the Markley Formation presented in the literature and in the collections of the UCMP indicate that this unit has high paleontological potential.

[26] University of California Museum of Paleontology, Collections Database Search Results, http://www.ucmp.berkeley.edu/science/collections.php, accessed on April 2018.

[27] University of California Museum of Paleontology, Collections Database Search Results, http://www.ucmp.berkeley.edu/science/collections.php, accessed on April 2018.

[28] University of California Museum of Paleontology, Collections Database Search Results, http://www.ucmp.berkeley.edu/science/collections.php, accessed on April 2018.

[29] Jefferson, G.T., 1991, A catalogue of Late Quaternary Vertebrates from California: Part One, nonmarine lower vertebrate and avian taxa. Natural History Museum of Los Angeles County Technical Reports No. 5.

[30] Jefferson, G.T., 1991, A catalogue of Late Quaternary Vertebrates from California: Part Two, Mammals. Natural History Museum of Los Angeles County Technical Reports No. 7.

[31] University of California Museum of Paleontology, Collections Database Search Results, http://www.ucmp.berkeley.edu/science/collections.php, accessed on April 2018.

- Kreyenhagen Formation: The record of the preservation of scientifically significant fossils in the Markley Formation presented in the literature and in the collections of the UCMP indicate that this unit has high paleontological potential.

4.6.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact related to geology and soils if it would:

1. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    a. 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? Refer to Division of Mines and Geology Special Publication 42.
    b. Strong seismic ground shaking.
    c. Seismic-related ground failure, including liquefaction.
    d. Landslides.
2. Result in substantial soil erosion or the loss of topsoil.
3. 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.
4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.
5. 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.
6. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

4.6.3 IMPACT DISCUSSION

GEO-1	**The project would not result in significant impacts from directly or indirectly causing potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure (including liquefaction), or landslides.**

Pursuant to the *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 and *Ballona Wetlands Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 473-474, CEQA does not require an EIR to analyze the environmental effects of attracting development and people to a hazardous area, except when the project exacerbates an existing environmental hazard or condition, or when specifically required by statute. Therefore, the discussion of geologic hazards below focuses on the extent to which the proposed project could exacerbate existing hazards.

Fault Rupture

Although no Alquist-Priolo Earthquake Fault Zone is located on the project site, the Clayton section of the Greenville Fault traverses the site near the southwest base of the Los Medanos Hills. There is no record of historic earthquakes on this section of the fault, and the fault has been interpreted to have a low slip rate based on geomorphic evidence. Based on the lack of known active faults on the site and the required geotechnical investigations for all grading within the city, fault rupture is not considered to be a potentially significant impact on the site. Therefore, the impact is *less than significant*.

Seismic Ground Shaking

The intensity of ground shaking at a given location depends on several factors, primarily on the earthquake magnitude, the distance from the epicenter to the site of interest, and the response characteristics of the soils or bedrock units underlying the site. The Greenville and Concord-Green Valley faults, which are the faults closest to the project site, are potentially capable of producing the most intense ground accelerations at the site, due to their proximity to the site. Secondary effects of earthquakes are nontectonic processes such as ground deformation, including fissures, settlement, displacement, and loss of bearing strength, and are the leading causes of damage to structures during a moderate to large earthquake. Secondary effects leading to ground deformation include liquefaction, lateral spreading, seismically induced landslides, and ground lurching.

In northern California, there is no way to completely avoid earthquake hazards. However, appropriate measures to minimize the effects of earthquakes are included in the most recent CBC, with specific provisions for seismic design. The CBC has been accepted as the basic design standard in the City of Concord and Contra Costa County. The design of structures in accordance with the CBC is expected to minimize the effects of ground shaking, except for during catastrophic seismic event, to the greatest degree feasible. Exposure of people or structures to seismic hazards is not a CEQA impact. Pursuant to the 2015 CBIA v BAAQMD case, CEQA applies to a project's impacts on the environment, not the environment's impacts on the project unless the project would exacerbate the environmental hazard.[32] Implementation of the proposed project would not cause or worsen seismic ground shaking; therefore, the impact would be *less than significant*.

Liquefaction

Research and historical data indicate that loose, granular materials at depths of less than 50 feet with silt and clay contents of less than 30 percent saturated by relatively shallow groundwater table are most susceptible to liquefaction. These geological conditions are typical in parts of northern California, including the City of Concord, and in valley regions and alluvial floodplains. Although liquefaction is expected within the site, based on the mandatory compliance with existing regulations, including the preparation and submittal of soil engineering reports and implementation of any proposed

[32] California Supreme Court, 2015, California Building Industry Association v. Bay Area Air Quality Management District, Opinion No. S213478, date filed December 17, 2015.

recommendations from the report, liquefaction impacts to any new developments within the area would be reduced to a *less-than-significant* level.

Landslides

Marginally stable slopes (including existing landslides) may be subject to landslides caused by earthquakes. The landslide hazard depends on many factors, including existing slope stability, shaking potential, and presence of existing landslides. The terrain of the site is varied, ranging from relatively flat to hilly. Any grading permit for development activities within a hillside must have an engineering geology report prepared and submitted to the City. This report would include proposed recommendations for landslide hazards if applicable. Therefore, landslides impacts are expected to be *less than significant*.

Lateral Spreading

Lateral spreading is a phenomenon where large blocks of intact, non-liquefied soil move downslope on a large liquefied substratum. The mass moves toward an unconfined area, such as a descending slope or stream-cut bluff, and has been known to move on slope gradients as little as one degree. Site-specific grading and compaction that could occur as part of future development on the site would mitigate any potential impacts from seismically induced lateral spreading. Therefore, the impact would be *less than significant*.

Settlement, Subsidence, and/or Collapse

The potential hazard posed by seismic settlement and/or collapse on the site is considered to be moderate, based on the compressibility of the underlying alluvial soils. Strong ground shaking can cause settlement of alluvial soils underlying the site by allowing sediment particles to become more tightly packed. Alluvial deposits are especially susceptible to this phenomenon. Artificial fills, if not adequately compacted, may also experience seismically induced settlement. Because unconsolidated soils and undocumented fill material are present on the site, seismically induced settlement and/or collapse are potential impacts.

Subsidence of basins attributed to overdraft of groundwater aquifers or over-pumping of petroleum reserves has been reported in various parts of northern California. Gas production wells are present within the project boundaries within the Willow Pass Gas Field and the Mulligan Hill Gas Field, both of which are abandoned. Based on the estimated low potential for future land subsidence,[33] subsidence is not considered to be a potentially significant impact on the site, and no mitigation is required.

Site-specific grading and compaction that would occur as part of future development within the site area would serve to mitigate any potential impacts from seismically induced settlement and/or collapse. Therefore, the impact would be *less than significant*.

[33] California Department of Water Resources, 2015, Summary of Recent, Historical, and Estimated Potential for Future Land Subsidence in California's Groundwater Update 2013, https://www.water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Data-and-Tools/Files/Statewide-Reports/California-Groundwater-Update-2013/California-Groundwater-Update-2013---Statewide.pdf, accessed on May 10, 2018.

Ground Lurching

Seismically induced ground lurching occurs when soil or rock masses move at right angles to a cliff or steep slope in response to seismic waves. Structures built on these masses can experience significant lateral and vertical deformations if ground lurching occurs. Based on the mandatory compliance with existing regulations, including the preparation and submittal of soil engineering, engineering geology and seismicity reports, ground lurching impacts would be reduced to a *less-than-significant* level.

Significance without Mitigation: *Less than significant.*

GEO-2	**The project would not result in substantial soil erosion or the loss of topsoil.**

Soils are particularly prone to erosion during the grading phase of development, especially during heavy rains. Reduction of the erosion potential can be accomplished through a Storm Water Pollution Prevention Plan, which specifies best management practices for temporary erosion controls. Such measures typically include temporary catchment basins and/or sandbagging to control runoff and contain sediment transport within the site. The Plan includes Management Prescription RESOURCE 1 "Implement Best Management Practices (BMPs) for erosion and sediment control." Therefore, the impact would be *less than significant*.

A more comprehensive discussion of erosion can be found in Chapter 4.9, Hydrology and Water Quality.

Significance without Mitigation: *Less than significant.*

GEO-3	**The project would not result in significant impacts associated with location 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.**

Liquefaction

As described under Impact GEO-1, soils susceptible to liquefaction are typical in parts of northern California, including the City of Concord, and in valley regions and alluvial floodplains.

Although liquefaction is expected within the site, based on the mandatory compliance with existing regulations, including the preparation and submittal of soil engineering reports and implementation of any proposed recommendations from the report, liquefaction impacts would be reduced to a *less-than-significant* level.

Landslides

As described under Impact GEO-1, the terrain of the site is varied, ranging from relatively flat to hilly. Any grading permit for a hillside development must have an engineering geology report prepared and submitted to the City. This report would include proposed recommendations for landslide hazards if

applicable. Therefore, the proposed project would not exacerbate any potential landslide hazards and the impact would be *less than significant*.

Lateral Spreading

As described under Impact GEO-1, grading and compaction that would occur as part of future development on the site would mitigate any potential impacts from seismically induced lateral spreading. Therefore, the impact would be *less than significant*.

Settlement, Subsidence, and/or Collapse

As described under Impact GEO-1, the potential hazard posed by seismic settlement and/or collapse on the site is considered to be moderate, based on the compressibility of the underlying alluvial soils. Strong ground shaking can cause settlement of alluvial soils underlying the site by allowing sediment particles to become more tightly packed. Alluvial deposits are especially susceptible to this phenomenon. Artificial fills, if not adequately compacted, may also experience seismically induced settlement. Because unconsolidated soils and undocumented fill material are present on the site, seismically induced settlement and/or collapse are potential impacts.

Subsidence of basins attributed to overdraft of groundwater aquifers or over-pumping of petroleum reserves has been reported in various parts of northern California. Gas production wells are present within the project boundaries within the Willow Pass Gas Field and the Mulligan Hill Gas Field, both of which are abandoned. Based on the estimated low potential for future land subsidence,[34] subsidence is not considered to be a potentially significant impact on the site, and no mitigation is required.

Site-specific grading and compaction that would occur as part of future development within the site would serve to mitigate any potential impacts from seismically induced settlement and/or collapse. Therefore, the impact would be *less than significant*.

Ground Lurching

Seismically induced ground lurching occurs when soil or rock masses move at right angles to a cliff or steep slope in response to seismic waves. Structures built on these masses can experience significant lateral and vertical deformations if ground lurching occurs. Based on the mandatory compliance with existing regulations, including the preparation and submittal of soil engineering, engineering geology and seismicity reports, ground lurching impacts to any development within the site area would be reduced to a *less-than-significant* level.

Significance without Mitigation: *Less than significant.*

[34] California Department of Water Resources, 2015, Summary of Recent, Historical, and Estimated Potential for Future Land Subsidence in California's Groundwater Update 2013, https://www.water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Data-and-Tools/Files/Statewide-Reports/California-Groundwater-Update-2013/California-Groundwater-Update-2013---Statewide.pdf, accessed on May 10, 2018.

GEO-4	The project would not result in a significant impact associated with its location on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.

Expansive soils shrink or swell as the moisture content decreases or increases. Structures built on these soils may experience shifting, cracking, and breaking damage as soils shrink and subside or expand. Based on the presence of alluvial materials within the site, there is some potential for expansive soils.[35]

The General Plan policies identified in Section 4.6.1.1 address how the City will mitigate risks due to soil expansion. It is assumed that all development on the site would comply with the applicable General Plan policies. Because the City controls the development approval process, the City would have the ability to enforce implementation of these policies, which include adequately analyzing site-specific conditions and risks, incorporating design features to mitigate those risks, and otherwise complying with established State and local codes. With this process in place, individual projects where expansive soils are identified would adequately control volume changes and potential damage to foundations, slabs, and paved roadways. Therefore, this impact is considered to be *less than significant*.

Significance without Mitigation: *Less than significant.*

GEO-5	The project would not 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.

The project does not include the construction of any septic or alternative wastewater disposal system. Pre-manufactured vault toilet restroom facilities are proposed for some staging areas, all campsites and other trail or picnic area locations. Vault toilets are designed to contain all the waste in sealed concrete vaults and regularly emptied by pumping by trained District staff. The toilets will be constructed meeting the California Building Code and the plans and specifications would be reviewed by the

Contra Costa County Department of Health Services, Environmental Health Division. The vault toilets construction would be overseen by a District staff person certified in pre-manufactured vault toilet installation. Implementation of these measures, which are standardized throughout the Park District would minimize potential impacts to *less than significant.*

Significance without Mitigation: *Less than significant.*

GEO-6	The project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

[35] U.S. Department of Agriculture, Natural Resources Conservation Service, 2018, https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx, accessed on May 10, 2018.

A review of the scientific literature and the online collections database of the UCMP indicates that the geologic units present in the project site have the following SVP paleontologic potentials:

- Holocene Alluvium, low-to-high potential, increasing with depth
- Landslide Debris, low potential
- Older Alluvium, high potential
- Oro Loma Formation, low potential
- Basalt, no potential
- Markley Formation, high potential
- Kreyenhagen Formation, high potential

Therefore, it is possible that paleontological resources could be discovered during excavation into previously undisturbed areas mapped as Older Alluvium, Markley Formation, or Kreyenhagen Formation, or excavations that exceed 10 feet in depth in Holocene Alluvium.

The paleontological analysis identifies the potential to encounter paleontological resources (i.e., plant, animal, or invertebrate fossils or microfossils) during excavations associated with implementation of the proposed Plan. Each of the geologic formations mapped as occurring in the project site is assigned an SVP paleontological potential (High, Low, Undetermined, or None, as defined in Table 4.6-2). A potentially significant impact on paleontological resources would occur if fossil resources were damaged or destroyed during construction activities. The SVP paleontological potential assessment can be used to identify where mitigation measures are needed to avoid a significant impact, primarily when construction of a proposed Regional Park component would move or excavate previously undisturbed geologic bedrock (native rock) with high paleontological potential.

Despite the sensitivity of the geologic landform underlying portions of the project site, 95 percent of the project site would be preserved for conservation and management of natural resources and limited to no ground disturbance would occur. Recreation and park facilities that would involve ground disturbance would be completed on land already developed with existing facilities (building sites, paved and unpaved roads, parking areas, bunkers, and railroad tracks from the Navy's operation of the property) and there would be limited ground disturbance into previously undisturbed formations that could potentially impact paleontological resources that may be present.

The potential for paleontological resources to be encountered during ground disturbing activities is considered a *potentially significan*t impact.

Significance without Mitigation: *Potentially significant.*

Impact GEO-6: Implementation of the proposed Plan could result in the accidental discovery of paleontological resources. This would be a potentially significant impact.

> Mitigation Measure GEO-6: Preconstruction Training, Paleontological Monitoring, and Inadvertent Discovery of Paleontological Resources. Prior to construction, a qualified paleontologist meeting the

standards of the SVP[36] with expertise in California paleontology shall develop a paleontological resources training program for all construction and field workers involved in ground-disturbing activities that details the recognition and importance of paleontological resources, and establishes accidental discovery procedures should paleontological resources be encountered during construction.

Paleontological monitoring is necessary for all ground-disturbing activities that occur in previously undisturbed formations mapped as Pleistocene-aged Older Alluvium, Eocene-aged Markley, or Kreyenhagen formations. Monitoring is also necessary for ground-disturbing activities that exceed 10 feet in depth in previously undisturbed sediments mapped as Holocene alluvium. Monitoring is not necessary in other locations on the project site, including artificial fill, landslide deposits, Oro Loma Formation, or in areas that have been previously disturbed. Monitoring shall be conducted by a qualified paleontological monitor that meets the standards of the SVP.[37]

If paleontological resources, such as fossilized bone, teeth, shell, tracks, trails, casts, molds, or impressions are discovered during ground-disturbing activities, work shall stop in that area and within 100 feet of the find until a qualified paleontologist can assess the nature and importance of the find and, if necessary, develop appropriate salvage measures in conformance with SVP standards,[38] and in consultation with the East Bay Regional Park District.

Significance with Mitigation: *Less than significant.*

4.6.4 CUMULATIVE IMPACTS

GEO-7	The project would not contribute to significant cumulative geology and soils impacts.

The geographic context used for the cumulative assessment of geology and soils impacts is Concord, which encompasses the entire site. Cumulative impacts can occur when impacts that are significant or less than significant from a proposed project combine with similar impacts from other past, present, or reasonably foreseeable projects in a similar geographic area.

As discussed previously, new development and redevelopment under the proposed project would require conformance with State and local regulations, building standards, and policies that would reduce geology and soils impacts to less-than-significant levels. When applicable, any additional new development within the project site would be subject, on a project-by-project basis, to independent CEQA review as well as policies in the Concord General Plan, design guidelines, zoning regulations, and other applicable City

[36] Society of Vertebrate Paleontology, 2010, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee.

[37] Society of Vertebrate Paleontology, 2010, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee.

[38] Society of Vertebrate Paleontology, 2010, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee.

requirements that reduce impacts related to geology, soils, and paleontological resources. All cumulative projects would be subject to similar permit requirements and would be required to comply with City ordinances and to be consistent with the General Plan. Therefore, cumulative impacts would be *less than significant*.

Significance without Mitigation: *Less than significant.*

4.7 GREENHOUSE GAS EMISSIONS

This chapter evaluates the potential for land use changes associated with adopting and implementing the proposed project to cumulatively contribute to greenhouse gas (GHG) emissions. Because no single project is large enough individually to result in a measurable increase in global concentrations of GHG emissions, global warming impacts of a project are considered on a cumulative basis. This analysis is based on the methodology recommended by the Bay Area Air Quality Management District (BAAQMD). The proposed project was evaluated using BAAQMD's plan-level review criteria, based on the preliminary information. GHG emissions are based on average daily trip generation provided by ESA for the on-road transportation emissions section. The GHG emissions modeling is included in Appendix B, Air Quality and Greenhouse Gas Data, of this Draft EIR.

4.7.1 ENVIRONMENTAL SETTING

4.7.1.1 GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Human activities contribute to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The primary source of these GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed within the 20th and 21st centuries. Other GHGs identified by the IPCC that contribute to global warming to a lesser extent include nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons.[1,2] The four major GHGs are briefly described below.

- **Carbon dioxide (CO_2)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH_4)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.
- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.
- **Fluorinated gases** are synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are

[1] Intergovernmental Panel on Climate Change, 2001, *Third Assessment Report: Climate Change 2001,* New York: Cambridge University Press.

[2] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant because it is considered part of the feedback loop of changing radiative forcing rather than a primary cause of change.

typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as high global-warming-potential (GWP) gases. The fluorinated gases are as follows:

- Chlorofluorocarbons (CFCs) are GHGs used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down the ozone layer. These gases are therefore being replaced by other compounds that are GHGs covered under the Kyoto Protocol.
- Perfluorocarbons (PFCs) are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF_4] and perfluoroethane [C_2F_6]) were introduced as alternatives, along with hydrofluorocarbons (HFCs), to ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high GWP.
- Sulfur Hexafluoride (SF_6) is a colorless gas soluble in alcohol and ether, and slightly soluble in water. SF_6 is a strong GHG used primarily in electrical transmission and distribution systems as an insulator.
- Hydrochlorofluorocarbons (HCFCs) contain hydrogen, fluorine, chlorine, and carbon atoms. Although they are ozone-depleting substances, they are less potent than CFCs. They have been introduced as temporary replacements for CFCs.
- Hydrofluorocarbons (HFCs) contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances to serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs.[3,4]

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have a stronger greenhouse effect than others. Like the fluorinated gases discussed above, these are referred to as high GWP gases. The global warming potential or "GWP" is used to convert GHGs to carbon dioxide (CO_2) equivalence (CO_2e) to show the relative potential that different GHGs have to contribute to the greenhouse effect. For example, under IPCC's Fourth Assessment Report GWP values for methane (CH_4), a project that generates 10 metric tons (MT) of CH_4 would be equivalent to 250 MT of CO_2.[5] Specific climate change impacts that could affect the proposed project include water supply, wildfire risks, health impacts, and energy demand.[6] The GWP of GHG emissions are shown in Table 4.7-1.

[3] Intergovernmental Panel on Climate Change, 1995, Second Assessment Report: Climate Change 1995.

[4] United States Environmental Protection Agency, 2009, EPA: Greenhouse Gases Threaten Public Health and the Environment, Science overwhelmingly shows greenhouse gas concentrations at unprecedented levels due to human activity, http://yosemite.epa.gov/opa/admpress.nsf/0/08D11A451131BCA585257685005BF252, accessed on May 10, 2018.

[5] CO_2-equivalence is used to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. The global warming potential of a GHG is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

[6] California Climate Change Center, 2012, Our Changing Climate 2012, Vulnerability & Adaptation to the Increasing Risks from Climate Change in California.

TABLE 4.7-1 GHG EMISSIONS AND THEIR RELATIVE GLOBAL WARMING POTENTIAL COMPARED TO CO_2

GHGs	Second Assessment Report Atmospheric Lifetime (Years)	Fourth Assessment Report Atmospheric Lifetime (Years)	Second Assessment Report Global Warming Potential Relative to CO_2[a]	Fourth Assessment Report Global Warming Potential Relative to CO_2[a]
Carbon Dioxide (CO_2)	50 to 200	50 to 200	1	1
Methane[b] (CH_4)	12 (±3)	12	21	25
Nitrous Oxide (N_2O)	120	114	310	298
Hydrofluorocarbons:				
HFC-23	264	270	11,700	14,800
HFC-32	5.6	4.9	650	675
HFC-125	32.6	29	2,800	3,500
HFC-134a	14.6	14	1,300	1,430
HFC-143a	48.3	52	3,800	4,470
HFC-152a	1.5	1.4	140	124
HFC-227ea	36.5	34.2	2,900	3,220
HFC-236fa	209	240	6,300	9,810
HFC-4310mee	17.1	15.9	1,300	1,030
Perfluoromethane: CF_4	50,000	50,000	6,500	7,390
Perfluoroethane: C_2F_6	10,000	10,000	9,200	12,200
Perfluorobutane: C_4F_{10}	2,600	NA	7,000	8,860
Perfluoro-2-methylpentane: C_6F_{14}	3,200	NA	7,400	9,300
Sulfur Hexafluoride (SF_6)	3,200	NA	23,900	22,800

Note: The IPCC has published updated global warming potential (GWP) values in its Fifth Assessment Report[7] that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO_2 (radiative forcing is the difference of energy from sunlight received by the earth and radiated back into space).
a. Based on 100-year time horizon of the GWP of the air pollutant relative to CO_2.
b. The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.
Source: Intergovernmental Panel on Climate Change , 1995, Second Assessment Report: Climate Change 1995; Intergovernmental Panel on Climate Change. 2007. Fourth Assessment Report: Climate Change 2007. New York: Cambridge University Press.

4.7.1.2 REGULATORY FRAMEWORK

Federal Regulations

The United States Environmental Protection Agency (EPA) announced on December 7, 2009 that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat.[8] To regulate GHGs from passenger vehicles, the EPA was required to issue an endangerment finding. The finding identifies emissions of six key GHGs: CO_2, CH_4,

N_2O, HCFCs, PFCs, and SF_6. The first three are applicable to the project's GHG emissions inventory because they constitute the majority of GHG emissions and, per BAAQMD guidance, are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

US Mandatory Report Rule for GHGs (2009)

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 metric tons (MT) or more of CO_2 per year are required to submit an annual report.

Update to Corporate Average Fuel Economy Standards (2010 to 2012)

The current Corporate Average Fuel Economy (CAFE) standards (for model years 2011 to 2016) incorporate stricter fuel economy requirements promulgated by the federal government and California into one uniform standard. Additionally, automakers are required to cut GHG emissions in new vehicles by roughly 25 percent by 2016 (resulting in a fleet average of 35.5 miles per gallon [mpg] by 2016). Rulemaking to adopt these new standards was completed in 2010. California agreed to allow automakers who show compliance with the national program to also be considered to be in compliance with State requirements. The federal government issued new standards in 2012 for model years 2017 to 2025, which will require a fleet average of 54.5 mpg in 2025.

EPA Regulation of Stationary Sources under the Clean Air Act (Ongoing)

Pursuant to its authority under the Clean Air Act (CAA), the EPA has been developing regulations for new stationary sources such as power plants, refineries, and other large sources of emissions. Pursuant to the Federal 2013 Climate Action Plan, the EPA was directed to also develop regulations for existing stationary sources. However, the EPA is reviewing the Clean Power Plan under the current Administration's Energy Independence Executive Order.

State Regulations

GHG Emission Reduction Legislation

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-03-05, Assembly Bill (AB) 32, Senate Bill (SB) 32, Executive Order B-30-15, and SB 375.

Executive Order S-03-05

Executive Order S-03-05, signed June 1, 2005, set the following GHG reduction targets for the state:

- 2000 levels by 2010.

[7] Intergovernmental Panel on Climate Change, 2013, Fifth Assessment Report: Climate Change 2013, New York: Cambridge University Press.

[8] US Environmental Protection Agency, 2009, EPA: Greenhouse Gases Threaten Public Health and the Environment, https://yosemite.epa.gov/opa/admpress.nsf/0/08d11a451131bca585257685005bf252, accessed on May 10, 2018.

- 1990 levels by 2020.
- 80 percent below 1990 levels by 2050.

Assembly Bill 32

Also known as the Global Warming Solutions Act (2006), AB 32 was signed August 31, 2006, in order to reduce California's contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-03-05. Under AB 32, California Air Resources Board (CARB) prepared the 2008 Climate Change Scoping Plan, the 2014 Climate Change Scoping Plan, and the 2017 Climate Change Scoping Plan, which is discussed below.

CARB 2008 Scoping Plan

The final Scoping Plan was adopted by CARB on December 11, 2008. The 2008 Scoping Plan identified that GHG emissions in California are anticipated to be approximately 596 $MMTCO_2e$ in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 $MMTCO_2e$ (471 million tons) for the state. In order to effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 $MMTCO_2e$ per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012.

First Update to the Scoping Plan

CARB completed a five-year update to the 2008 Scoping Plan, as required by AB 32. The first update to the Scoping Plan, adopted at the May 22, 2014 board hearing, highlighted California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the 2008 Scoping Plan. As part of the 2014 update, CARB recalculated the 1990 GHG emission levels with the updated IPCC's Fourth Assessment Report GWPs, and the 427 $MMTCO_2e$ 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, are slightly higher at 431 $MMTCO_2e$.[9]

As identified in the 2014 Scoping Plan, California is on track to meeting the goals of AB 32. However, the 2014 update also addresses the state's longer-term GHG goals in a post-2020 element. The post-2020 element provides a high-level view of a long-term strategy for meeting the 2050 GHG goals, including a recommendation for the State to adopt a midterm target. According to the 2014 Scoping Plan, local government reduction targets should chart a reduction trajectory that is consistent with or exceeds the trajectory created by statewide goals.[10] CARB identified that reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant acceleration of GHG reduction

[9] California Air Resources Board, 2014, California Greenhouse Gas Inventory for 2000–2012: By Category as Defined by the Scoping Plan, http://www.arb.ca.gov/cc/inventory/data/data.htm, accessed on May 10, 2018.

[10] California Air Resources Board, 2017, California Greenhouse Gas Inventory for 2000–2012: By Category as Defined by the Scoping Plan, http://www.arb.ca.gov/cc/inventory/data/data.htm, accessed on May 10, 2018.

rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit.[11]

Executive Order B-30-15

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions within the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the 2014 Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in Executive Order S-03-05. It also requires the Natural Resources Agency to conduct triennial updates of the California adaption strategy, Safeguarding California, in order to ensure climate change is accounted for in state planning and investment decisions.

Senate Bill 32 and Assembly Bill 197

In September 2016, SB 32 and AB 197 were signed into law, making the Executive Order goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires the CARB to prioritize direct emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

2017 Climate Change Scoping Plan Update

On December 14, 2017, CARB adopted the 2017 Climate Change Scoping Plan Update (2017 Scoping Plan) to address the 2030 target for the state. The 2017 Scoping Plan establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.[12] California's climate strategy will require contributions from all sectors of the economy, in addition to the land base, and will include enhanced focus on zero- and near-zero emission vehicle technologies; continued investment in renewables; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning. Requirements for direct GHG reductions at refineries will further support air quality co-benefits in neighborhoods, as well as efforts with California's local air pollution control and air quality management districts (air districts) to tighten emission limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZE buses and trucks.
- Low Carbon Fuel Standard, with an increased stringency (18 percent by 2030).

[11] California Air Resources Board, 2017, California Greenhouse Gas Inventory for 2000–2012: By Category as Defined by the Scoping Plan, http://www.arb.ca.gov/cc/inventory/data/data.htm, accessed on May 10, 2018.

[12] California Air Resources Board, 2017, California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on May 10, 2018.

- Implementation of SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes NZE technology, and deploys ZE trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20 percent reduction in GHG emissions from refineries by 2030.[13]
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

In addition to the statewide strategies, the 2017 Scoping Plan also identified local governments as essential partners in achieving the State's long-term GHG reduction goals and identified local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends that local governments achieve a community-wide goal to achieve emissions of no more than 6 $MTCO_2e$ or less per capita by 2030 and 2 $MTCO_2e$ or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidenced-based bright-line numeric thresholds—consistent with the Scoping Plan and the State's long-term GHG goals; projects with emissions over that amount may be required to incorporate on-site design features and mitigation measures that avoid or minimize project emissions to the degree feasible. Or lead agencies may develop a performance-based metric using a climate action plan or other plan to reduce GHG emissions as appropriate.

The 2017 Scoping Plan scenario is set against what is called the business-as-usual yardstick—that is, what the GHG emissions would look like if the State did nothing at all beyond the existing policies that are required and already in place to achieve the 2020 limit, as shown in Table 4.7-2. It includes the existing renewables requirements, advanced clean cars, the "10 percent" Low Carbon Fuel Standard, and the SB 375 program for more vibrant communities, among others. However, it does not include a range of new policies or measures that have been developed or put into statute over the past two years. Also shown in the table, the known commitments are expected to result in emissions that are 60 $MMTCO_2e$ above the target in 2030. In order to make up the gap, a new Post- 2020 Cap-and-Trade Program and refinery measure are key components of the 2017 Scoping Plan.

[13] The 2017 Scoping Plan includes policies to require direct GHG reductions at some of the state's largest stationary sources and mobile sources in accordance with AB 197. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and-Trade Program, which constrains and reduces emissions at covered sources.

TABLE 4.7-2 2017 CLIMATE CHANGE SCOPING PLAN EMISSIONS REDUCTIONS GAP TO ACHIEVE THE 2030 GHG TARGET

Modeling Scenario	2030 GHG Emissions $MMTCO_2e$
Reference Scenario (Business-as-Usual)	389
With Known Commitments	320
2030 GHG Target	**260**
Gap to 2030 Target with Known Commitments	**60**

Source: California Air Resources Board, 2017. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on May 10, 2018.

Table 4.7-3 provides estimated GHG emissions by sector, compared to 1990 levels, and the range of GHG emissions for each sector estimated for 2030.

TABLE 4.7-3 2017 CLIMATE CHANGE SCOPING PLAN EMISSIONS BY SECTOR TO ACHIEVE THE 2030 GHG TARGET

Scoping Plan Sector	1990 $MMTCO_2e$	2030 Proposed Plan Ranges $MMTCO_2e$	% Change from 1990
Agricultural	26	24-25	-8% to -4%
Residential and Commercial	44	38-40	-14% to -9%
Electric Power	108	30-53	-72% to -51%
High GWP	3	8-11	267% to 367%
Industrial	98	83-90	-15% to -8%
Recycling and Waste	7	8-9	14% to 29%
Transportation (including TCU)	152	103-111	-32% to -27%
Net Sink[a]	-7	TBD	TBD
Subtotal	*431*	*294-339*	*-32% to -21%*
Cap-and-Trade Program	NA	24-79	NA
Total	**431**	**260**	**-40%**

Notes: TCU = Transportation, Communications, and Utilities; TBD: To Be Determined.
a. Work is underway through 2017 to estimate the range of potential sequestration benefits from the natural and working lands sector.
Source: California Air Resources Board. 2017, California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on May 10, 2018.

Senate Bill 1383

On September 19, 2016, SB 1383 was signed into law to supplement the GHG reduction strategies in the 2017 Scoping Plan to consider short-lived climate pollutants, including black carbon and CH4. Black carbon is the light-absorbing component of fine particulate matter produced during incomplete combustion of fuels. SB 1383 requires the State board, no later than January 1, 2018, to approve and begin implementing that comprehensive strategy to reduce emissions of short-lived climate pollutants to

achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. The bill also establishes targets for reducing organic waste in landfills. On March 14, 2017, CARB adopted the "Final Proposed Short-Lived Climate Pollutant Strategy," which identifies the State's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s, despite the tripling of diesel fuel use.[14] In-use on-road rules are expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020.

Senate Bill 375

Also known as the Sustainable Communities and Climate Protection Act, SB 375 was adopted in 2008 to connect the 2017 Scoping Plan's GHG emissions reductions targets for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional, long-range, transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 regions in California managed by a metropolitan planning organization (MPO). The Metropolitan Transportation Commission (MTC) is the MPO for the nine-county San Francisco Bay Area region. MTC's targets are a 7 percent per capita reduction in GHG emissions from 2005 by 2020, and 15 percent per capita reduction from 2005 levels by 2035. SB 375 requires CARB to periodically update the targets, no later than every 8 years.

SB 375 requires CARB to periodically update the targets, no later than every 8 years. In June 2017, CARB released updated targets and technical methodology and recently released another update in February 2018. The updated targets consider the need to further reduce VMT, as identified in the draft 2017 Scoping Plan Update, while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks relative to 2005. This excludes reductions anticipated from implementation of state technology and fuels strategies and any potential future State strategies such as statewide road user pricing. The proposed targets call for greater per capita GHG emission reductions from SB 375 than are currently in place, which for 2035, translate into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted Sustainable Communities Strategy (SCS). As proposed, CARB staff's proposed targets would result in an additional reduction of over 10 $MMTCO_2e$ in 2035 compared to the current targets. For the next round of SCS updates, CARB's updated targets for the MTC/Association of Bay Area Governments (ABAG) region are a 10 percent per capita GHG reduction in 2020 from 2005 levels (compared to 7 percent under the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 15 percent).[15] The updated targets

[14] California Air Resources Board, 2017, Short-Lived Climate Pollutant Reduction Strategy, https://www.arb.ca.gov/cc/shortlived/meetings/03142017/final_slcp_report.pdf, accessed on May 10, 2018.

[15] California Air Resources Board, 2018, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets, https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf, accessed on May 10, 2018.

and methodology took effect on January 1, 2018, and SCS adopted in 2018 and later are subject to these new targets.

2017 Update to the SB 375 Targets

In June 2017, CARB released updated targets and technical methodology and recently released another update in February 2018. The updated targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan (for SB 32), while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks relative to 2005; this excludes reductions anticipated from implementation of State technology and fuels strategies, and any potential future State strategies such as statewide road user pricing. The proposed targets call for greater per capita GHG emission reductions from SB 375 than are currently in place, which for 2035, translate into proposed targets that either match or exceed the emission reduction levels contained in the MPOs' currently adopted SCSs to achieve the SB 375 targets. As proposed, CARB staff's proposed targets would result in an additional reduction of over 8 $MMTCO_2e$ in 2035 compared to the current targets. For the next round of SCS updates, CARB's updated targets for the MTC/ABAG region are a 10 percent per capita GHG reduction in 2020 from 2005 levels (compared to 7 percent under the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 15 percent). CARB anticipates adoption of the updated targets and methodology in 2018 and subsequent SCSs adopted afterwards would be subject to these new targets.[16]

Plan Bay Area 2040

Plan Bay Area 2040 is the Bay Area's Regional Transportation Plan/SCS and was adopted jointly by ABAG and MTC on July 26, 2017. It lays out a development scenario for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement) beyond the per capita reduction targets identified by CARB. Plan Bay Area 2040 is a limited and focused update to the 2013 Plan Bay Area, with updated planning assumptions that incorporate key economic, demographic, and financial trends from the last several years. As part of the implementing framework for Plan Bay Area, local governments have identified Priority Development Areas (PDAs) to focus growth. PDAs are transit-oriented, infill development opportunity areas within existing communities. Overall, well over two-thirds of all regional growth in the Bay Area by 2040 is allocated in PDAs. Pursuant to the Plan Bay Area 2040, while the projected number of new housing units and new jobs within PDAs would increase to 629,000 units and 707,000 jobs compared to the adopted Plan Bay Area 2013, its overall share would be reduced to 77 percent and 55 percent.[17] However, Plan Bay Area 2040 remains on track to meet a 16 percent per capita

[16] California Air Resources Board, 2018, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets, https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf accessed on May 10, 2018.

[17] Metropolitan Transportation Commission and Association of Bay Area Governments, 2017, Plan Bay Area 2040 Plan.

reduction of GHG emissions by 2035 and a 10 percent per capita reduction by 2020 from 2005 conditions.[18] The project is not within an identified PDA.[19]

Assembly Bill 1493

Also known as Pavley I, AB 1493 is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles (see also the discussion on the update to the CAFE standards under the heading for Federal Regulations, above). In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.[20]

Executive Order S-01-07

On January 18, 2007, the state set a new Low Carbon Fuel Standard for transportation fuels sold in California. Executive Order S-01-07 sets a declining standard for GHG emissions measured in carbon dioxide equivalent gram per unit of fuel energy sold in California. The Low Carbon Fuel Standard requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The Low Carbon Fuel Standard applies to refiners, blenders, producers, and importers of transportation fuels and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle," using the most economically feasible methods.

Executive Order B-16-2012

Signed on March 23, 2012, the State directed that CARB, the California Energy Commission, the Public Utilities Commission, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate zero-emissions vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directs the number of zero-emission vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are zero-emission by 2015 and at least 25 percent by 2020. Finally,

[18] Metropolitan Transportation Commission and Association of Bay Area Governments, 2017, Plan Bay Area 2040 Plan.

[19] Associated Bay Area Governments, 2015, Priority Development Area Showcase, http://gis.abag.ca.gov/website/PDAShowcase/, accessed on May 10, 2018.

[20] See also the discussion on the update to the CAFE standards under Federal Laws, above. In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

the executive order sets a target of reducing GHG emissions from the transportation sector 80 percent below 1990 levels.

Senate Bills 1078, 107, and X1-2, and Executive Order S-14-08

A major component of California's Renewable Energy Program is the renewable portfolio standard established under Senate Bill 1078 and 107. Executive Order S-14-08 was signed in November 2008, which expanded the State's Renewable Energy Standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

Senate Bill 350

Signed in September 2015, SB 350 establishes tiered increases to the renewable portfolio standard of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 seeks to double the energy efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100, which raises California's RPS requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18.

Executive Order B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Executive Order B-55-18 directs CARB to work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions should be offset by equivalent net removals of CO2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

California Building Code: Building Energy Efficiency Standards

Energy conservation standards for new residential and non-residential buildings were adopted in June 1977 and most recently revised in 2019 (Title 24, Part 6, of the California Code of Regulations). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 Building Energy Efficiency Standards, which were adopted on May 9,

2018, go into effect starting January 1, 2020.[21] The 2019 standards move toward cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; and 4) nonresidential lighting requirements.[22] Under the 2019 standards, nonresidential buildings will be 30 percent more energy efficient compared to the 2016 standards, and single-family homes will be 7 percent more energy efficient. When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards.[23]

California Building Code: CALGreen

On July 17, 2008, California Green Building Standards Code (24 California Code of Regulations, Part 11, known as "CALGreen") were adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.[24] The mandatory provisions of the 2016 CALGreen building standards became effective on January 1, 2017. The CEC adopted the 2019 CALGreen on May 9, 2018, and it becomes effective January 1, 2020.

2006 Appliance Efficiency Regulations

Adopted by the California Energy Commission on October 11, 2006, the 2006 Appliance Efficiency Regulations (Title 20, California Code of Regulations, Sections 1601 through 1608) were approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. Though these regulations are now often viewed as "business-as-usual," they exceed the standards imposed by all other states and they reduce GHG emissions by reducing energy demand.

Solid Waste Regulations

California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code 40050 *et seq.*) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this,

[21] California Energy Commission, 2015. 2016 Building Energy and Efficiency Standards Frequently Asked Questions. http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf, accessed May 10, 2018.

[22] California Energy Commission, 2018. Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation. News Release.

[23] California Energy Commission, 2018. 2019 Building Energy and Efficiency Standards Frequently Asked Questions. http://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf, accessed September 5, 2018.

[24] The green building standards became mandatory in the 2010 edition of the code.

the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity. AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses.

The California Solid Waste Reuse and Recycling Access Act (AB 1327, California Public Resources Code Sections 42900 *et seq.*) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own. Section 5.408 of the CALGreen also requires that at least 50 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

AB 1826, signed on October of 2014, requires businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

Water Efficiency Regulations

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009 to 2010 and therefore dubbed "SBX7-7." SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 requires urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or equivalent. AB 1881 also requires the Energy Commission, in consultation with the department, to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

Regional Regulations

Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) is the regional governmental agency which regulates sources of air pollution in the nine San Francisco Bay Area counties. BAAQMD regulates greenhouse gas emissions through the following plans, programs and guidelines:

- The Bay Area Clean Air Plan (2017) provides a regional strategy to protect public health and protect the climate. To protect the climate, the plan defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious greenhouse gas reduction targets for 2030 and 2050, and provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve those GHG reduction targets. The 2017 Plan includes a wide range of control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as particulate matter, ozone, and toxic air contaminants; to reduce emissions of methane and other "super-GHGs" that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.
- BAAQMD Climate Protection Program staff support the 2017 Clean Air Plan's 85 distinct control measures to decrease fossil fuel combustion, improve energy efficiency, and decrease emissions of potent GHGs and other pollutants. In 2018, the Climate Protection Grant Program awarded $4.5 million to 15 regional public agencies to reduce GHGs from existing buildings and to foster innovative strategies for long-term GHG reduction. Program staff also support local governments with GHG inventories and local climate action plans.
- CEQA Guidelines and Thresholds of Significance: In 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under the California Environmental Quality Act. These thresholds are designed to establish the level at which the District believed air pollution emissions would cause significant environmental impacts under CEQA; the thresholds were revised in May 2017. The 2017 Guidelines provide a uniform scale to measure the significance of GHG emissions from land use and stationary source projects in compliance with CEQA and AB 32. BAAQMD is currently updating the 2017 CEQA Guidelines to reflect substantive changes to the data and methodology assumptions, and to address the risks to public health posed by global climate change.

District Regulations

East Bay Regional Park District Master Plan (2013)

The East Bay Regional Park District Master Plan, adopted July 16, 2013, provides policy direction for resource stewardship and development of parks within the jurisdiction of the District. The Master Plan also includes a vision, a mission statement and the identifies climate change as an institutional priority and states that the Park District has an important contribution to the sustainability of the region, while recognizing that climate change may affect ecosystems in complex ways not currently understood.

Specific policies addressing Greenhouse Gas Emissions and the effects on the parks from climate change, are in the Resource Management and Natural Resource Management sections of the Master Plan:

- RM 1: Climate Change is expected to affect these resources in various ways. Changes in the ranges of various species, increased potential for wildfires and pests are anticipated with this change in the weather. In a manner consistent with the desire to "conserve and enhance" its resources, the District must closely track the impact of this phenomenon and if necessary, act to relocate or protect in-situ resources that are being degraded or potentially lost by this change.
- RM 1b: The District will specifically track and monitor the effects of Climate Change on its resources, interceding when necessary to relocate or protect in-situ resources that are being degraded or lost by this shift in the environment.
- NRM 1b: To help mitigate the effects of climate change, the District will endeavor to conserve and connect habitat for native species through its acquisition and planning processes.
- NRM 12b: The District will engage in watershed management planning and practices that will address the shifts in habitat ranges caused by climate change through the preservation and enhancement of streams and wetland areas.

East Bay Regional Park District Policy Framework for Climate Change (2018)

On April 17, 2018, the District Board of Directors adopted Resolution 2018-04-081 to establish a policy framework for managing park resources in a changing climate. The climate policy framework includes five key principles: 1) Climate in All Policies, 2) Climate Friendly, 3) Climate Readiness, 4) Lead Climate Smart Practices; and 5) Advancing Climate Science.

To implement this policy, the District has completed an inventory of the agency GHG emissions in the building and vehicle fleet sectors, developed a baseline of carbon sequestration on District lands, and is working to implement a strategic energy plan, including development of a solar array that generates renewable energy sufficient to offset the District's energy use in its buildings. Additionally, the District's Climate Smart Initiative includes integrated adaptive management, such as wetland restoration at Dotson Family Marsh, wildfire hazard reduction practices, and expansion of a network of trails for green transportation.

Local Regulations

City of Concord General Plan

The City's General Plan establishes a vision and priorities for the City of Concord through 2030. Policies found in this document act as a road map for the Development Code, Capital Improvement Program and subdivision regulations. The Concord Reuse Project Area Plan (Area Plan) provides further guidance on the use of the site, including specific policies and standards for its development and conservation. The General Plan includes the following goals, principles, and policies relevant to the proposed project:

- Principle LU-8.1: Achieve a complete and diverse community that provides well-connected neighborhoods and districts with high-quality urban design and convenient access to open space, daily necessities, and regional transit.
    - Policy LU-8.1.7: Follow community design principles which reduce greenhouse gas emissions and support environmental sustainability.

- Goal T-1: A safe and efficient multi-modal transportation system.
- Principle T-1.1: Provide an easily accessible, functional, and attractive circulation network.
  - Policy Transportation-1.1.2: Maintain and upgrade transportation systems to provide smooth flow of traffic, minimize vehicle emissions, and save energy. Transportation improvements should be consistent with statewide greenhouse gas reduction goals established by Assembly Bill 32, and the land use and transportation policy initiatives established by Senate Bill 375.

Concord Reuse Project Area Plan's Climate Action Plan

Book Three of the Area Plan, which was adopted by the City on January 24, 2012, is the Climate Action Plan (CAP) for the project site area. The purpose of Book Three is to focus on climate action as part of the vision for the former Concord Naval Weapons Station (CNWS). By including a GHG Reduction Program, the Area Plan responds both to the requirements of State law and to mitigation measures specified in the Final Environmental Impact Report (EIR) on the Concord Community Reuse Plan. The CAP includes strategies to reduce the climate impacts from Area Plan; an implementation and monitoring program; and principles, policies, and standards for climate action throughout the plan area of the City's Area Plan, which includes the project site. The Area Plan's standards, principles, and policies call for innovations in mobility, building design, building systems, and infrastructure. Together, these will result in GHG emissions at a level consistent with the State of California's aims for battling climate change.

The program is designed to achieve the target expressed in Climate Action Objective 2: annual per capita GHG emissions below 4.6 MT CO by 2020 and 2.8 MT CO by 2030, consistent with both California's Global Warming Solutions Act of 2006 (AB 32) and Executive Order S-3-05.[25] To create a practical way to implement the initiatives, the program combines specific implementation requirements with the performance-based objective for GHG emissions associated with Area Plan buildout. The City's strategy is structured around the following four initiatives: site-wide development standards, sector-based actions, education and collaboration policies, and implementation and monitoring. The Area Plan's CAP was incorporated into and adopted as part of the citywide CAP.

4.7.1.3 EXISTING CONDITIONS

The proposed project consists of 2,543 acres of mostly undeveloped land, and is not currently a substantial source of GHG emissions. The northern section contains most of the existing structures and a road and rail network, and the southern section is less developed with a small network of concrete, earth-covered magazines along a loop road.

[25] City of Concord, 2012, Concord Reuse Project Area Plan, Book Three: Climate Action Plan, https://mtc.ca.gov/sites/default/files/Concord%20Naval%20Weapons%20Station%20Reuse%20Plan%202012%20Book%203.pdf, accessed on May 10, 2018.

4.7.2 STANDARDS OF SIGNIFICANCE

4.7.2.1 CEQA GUIDELINES APPENDIX G

Implementation of the proposed project would result in a significant impact related to GHG emissions if it would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment.
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

4.7.2.2 BAAQMD SIGNIFICANCE CRITERIA

BAAQMD has a tiered approach for assessing GHG emissions impacts of a project. If a project is within the jurisdiction of an agency that has a "qualified" GHG reduction strategy, the project can assess consistency of its GHG emissions impacts with the reduction strategy. Land use development projects include residential, commercial, industrial, and public land use facilities. Direct sources of emissions may include on-site combustion of energy, such as natural gas used for heating and cooking, emissions from industrial processes (not applicable for most land use development projects), and fuel combustion from mobile sources. Indirect emissions are emissions produced off-site from energy production, water conveyance due to a project's energy use and water consumption, and non-biogenic emissions from waste disposal. Biogenic CO_2 emissions are not included in the quantification of a project's GHG emissions, because biogenic CO_2 is derived from living biomass (e.g., organic matter present in wood, paper, vegetable oils, animal fat, food, animal, and yard waste) as opposed to fossil fuels.

AB 32 Goal: 2020

BAAQMD has adopted screening criteria and significance criteria for development projects that would be applicable for the proposed project. If a project exceeds the BAAQMD Guidelines' GHG screening-level sizes, the project would be required to conduct a full GHG analysis using one of the following BAAQMD significance criteria:

- 1,100 MT of CO_2e per year.
- 4.6 MT of CO_2e per service population (SP) for year 2020.[26]

AB 32 requires the statewide GHG emission to be reduced to 1990 levels by 2020. On a per-capita basis, that means reducing the annual emissions of 14 tons of carbon dioxide for every man, woman, and child in California down to about 10 tons per person by 2020.[27] Hence, BAAQMD's per capita significance threshold is calculated based on the state's land use sector emissions inventory prepared by CARB and the demographic forecasts for the 2008 Scoping Plan. The land use sector GHG emissions for 1990 were estimated by BAAQMD, as identified in Appendix D of the BAAQMD CEQA Guidelines, to be 295.53

[26] The efficiency threshold for 2020 does not include the waste sector.
[27] California Air Resources Board, 2008, Climate Change Proposed Scoping Plan, a Framework for Change.

$MMTCO_2e$ and the 2020 California service population (SP) to be 64.3 million. Therefore, the significance threshold that would ensure consistency with the GHG reduction goals of AB 32 is estimated at 4.6 $MTCO_2e$/SP for year 2020.[28]

SB 32 Goal: 2030

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions within the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal. In September 2016, Governor Brown signed Senate Bill 32 into law, making the Executive Order goal for year 2030 into a statewide mandated legislative target.

Using a similar methodology as developed by BAAQMD, the efficiency targets have been adjusted based on the GHG reduction targets of SB 32, which set a goal of 40 percent below 1990 levels by 2030. Table 4.7-4 shows the 2030 efficiency target using the latest land use emissions inventory developed for the 2017 Scoping Plan. The 2017 Scoping Plan includes the regulations and programs to achieve the 2030 target. The 2017 Scoping Plan establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.[29]

Regional Park Service Population

Park visitors are the daytime population of the regional park. Because the primary users of the park are visitors, the service population (SP) considered for the proposed project includes average daily park visitors and park staff.

4.7.3 IMPACT DISCUSSION

4.7.3.1 METHODOLOGY

The analysis in this section is based on opening day and buildout of the proposed project as modeled using CalEEMod, Version 2016.3.2. Emissions are based on the following:

- Transportation: GHG emissions are based on the annual average trip generation data provided by ESA. For purposes of this analysis, both the average daily trips generated under phase one and full buildout conditions are utilized.
- Solid Waste Disposal: Indirect emissions from waste generation are based on CalRecycle solid waste generation rates. Emissions calculated using CalEEMod include biogenic emissions generated from solid waste.

[28] Bay Area Air Quality Management District, 2017, California Environmental Quality Act Air Quality Guidelines.

[29] California Air Resources Board, 2017, California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on May 10, 2018.

TABLE 4.7-4 2030 GHG REDUCTION TARGETS

GHG Sector[a]	Scoping Plan Scenario GHG Emissions $MMTCO_2e$
2017 Scoping Plan End Use Sector 2030 – Land Use Only Sectors	
Residential – residential energy consumption	41.4
Commercial – commercial energy consumption	30.1
Transportation – transportation energy consumption	105.1
Transportation Communications and Utilities – energy that supports public infrastructure like street lighting and waste treatment facilities	5
Solid Waste Non-Energy GHGs	9.1
Total 2017 Scoping Plan Land Use Sector Target	260
2030 Project-Level Efficiency Target	
2030 Population[b]	44,085,600
2030 Employment[c]	19,210,760
2030 Service Population	**63,296,360**
2030 Efficiency Target	**3.1 $MTCO_2e$/SP**
2050 Project-Level Efficiency Target	
2050 Population[b]	44,085,600
250 Employment[c]	19,210,760
2050 Service Population	**63,296,360**
2050 Efficiency Target	**3.1 $MTCO_2e$/SP**

Sources:
a. California Air Resources Board, 2017, California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on May 10, 2018.
b. California Department of Finance, 2014, Report P-1 (County): State and County Total Population Projections, 2010-2060 (5 -year increments). http://www.dof.ca.gov/Forecasting/Demographics/Projections/, accessed on May 10, 2018.
c. California Department of Transportation, 2016, Long-Term Socio-economic Forecasts by County, http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic.html, accessed on May 10, 2018. Without industrial and agricultural sectors.

- **Water/Wastewater:** GHG emissions from this sector are associated with the embodied energy used to supply water, treat water, distribute water, and then treat wastewater and fugitive GHG emissions from wastewater treatment. Emissions are based on average water demand and wastewater generation using CalEEMod default indoor and outdoor water generation rates.
- **Area Sources:** Area and stationary sources are based on the CalEEMod defaults for use of consumer products and cleaning supplies.
- **Energy:** GHG emissions from this sector are from use of electricity and natural gas by the proposed buildings. For purposes of this analysis, new buildings are assumed to comply with the 2016 Building Energy Efficiency Standards.

Life-cycle emissions are not included in this analysis because not enough information is available for the proposed Regional Park; therefore, life-cycle GHG emissions would be speculative.[30] Black carbon emissions are not included in the GHG analysis because CARB does not include this pollutant in the State's AB 32 inventory and treats this short-lived climate pollutant separately.[31]

GHG-1 Implementation of the proposed project would not directly or indirectly generate GHG emissions that would result in a significant impact on the environment.

Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough GHG emissions on its own to influence global climate change significantly; hence, the issue of global climate change is, by definition, a cumulative environmental impact. Therefore, the GHG chapter measures a project's contribution to the cumulative environmental impact. Future potential development under the proposed project would contribute to global climate change through direct and indirect GHG emissions from transportation sources, energy (natural gas and purchased energy), water use and wastewater generation, waste generation, and other, off-road equipment (e.g., landscape equipment, construction activities).

Construction Phase

BAAQMD does not have thresholds of significance for one-time construction-related GHG emissions. The proposed project would necessitate heavy construction for development of the paved roadways (3 miles) and grading associated with the approximately 3.5-acre corporation yard site. Based on preliminary construction details, the proposed project would not require more than 10,000 cubic yards of haul, or disturb more than 67 acres in any given year. Additionally, as described in Chapter 4.2, *Air Quality*, the proposed project would not exceed BAAQMD's screening criteria for construction activities. GHG emissions from construction activities are one-time, short-term emissions and therefore would not significantly contribute to the long-term cumulative GHG emissions impacts of the proposed project. Additionally, the proposed project would comply with the CALGreen and divert a minimum of 65 percent

[30] Life-cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions found that lifecycle analyses was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources, and the possibility of double-counting emissions (see Final Statement of Reasons for Regulatory Action, December 2009). Because the amount of materials consumed during the operation or construction phases of individual development projects is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials are also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (Governor's Office of Planning and Research, 2008, CEQA and Climate Change: Addressing Climate Change through CEQA Review, Technical Advisory, http://www.opr.ca.gov/ceqa/pdfs/june08-ceqa.pdf accessed on May 10, 2018).

[31] Black carbon emissions have sharply declined due to efforts to reduce on-road and off-road vehicle emissions, especially diesel particulate matter. The State's existing air quality policies will virtually eliminate black carbon emissions from on-road diesel engines within 10 years (California Air Resources Board, 2017. Final Proposed Short-Lived Climate Pollutant Reduction Strategy, https://www.arb.ca.gov/cc/shortlived/shortlived.htm, accessed on May 10, 2018).

of construction and demolition debris by weight. The proposed project includes adaptation some of the existing buildings, rather than demolition, which would help minimize landfilled construction waste. Because the proposed project would not require extensive grading and the maximum acreage disturbed at any one time would be approximately 4 acres, which is substantially less than the screening size of 67 acres or larger for construction project, construction-related GHG emissions impacts of the proposed project would be *less than significant*.

Operational Phase

The proposed project would facilitate redevelopment of recreational and park facilities with and educational interpretive elements. Future potential development of the proposed project would accommodate approximately 2,665 average weekend daily visitors, generate one new residence, and employ 52 people at buildout, resulting in an increase in vehicle trips, energy use, water use, wastewater generation, and solid waste disposal on site. Additionally, the proposed project includes an experimental forest component the Cistern Pond Special Protection Feature that would increase carbon sequestration on-site. However, emissions benefits from carbon sequestration are conservatively not included in the emissions modeling. The GHG emissions associated with the proposed project are shown in Table 4.7-5 and compared to existing emissions from the project site.

As shown in Table 4.7-5, implementation of the proposed project would result in a net increase of GHG emissions of 131 $MTCO_2e$ at opening year (estimated at year 2023); and would not exceed BAAQMD's bright-line threshold of 1,100 $MTCO_2e$/year. Future development under project buildout (estimated at year 2050) would generate 1,008 $MTCO_2e$/year, which is below BAAQMD's bright-line threshold. Similarly, the proposed project's efficiency metric ($MTCO_2e$/Service Population/year) would not exceed BAAQMD's criteria, as shown in Table 4.7-5. Average annual emissions per service population are divided by the service population[32] of the proposed project to estimate the proposed project's efficiency at opening day and project buildout based on the GHG reduction target for the horizon year of the project (2023 and 2050, respectively). As described in Chapter 4.5, Energy, the new buildings also would use new modern appliances and equipment, and would comply with the current CALGreen Building Code per CMC Chapter 15.45, which requires the use of recycled construction materials, environmentally sustainable building materials, building designs that reduce the amount of energy used in building heating and cooling systems as compared to conventionally built structures, and landscaping that incorporates water efficient irrigation systems. Furthermore, compliance with the GHG Reduction Program as described in the Area Plan's CAP would minimize GHG emissions to the extent feasible to meet the reduction target established under AB 32. Therefore, overall, the proposed project's cumulative contribution to the long-term GHG emissions in the state would be considered *less than significant*.

Significance without Mitigation: *Less than significant.*

[32] BAAQMD defines service population (SP) as residents and employees who live or work within the project site.

TABLE 4.7-5 PROJECT GHG EMISSIONS – OPERATION PHASE

	GHG Emissions ($MTCO_2e$/Year)			
	Opening Year 2023 MT/year	Percentage	Buildout Year 2050 MT/year	Percentage
Net Increase				
Area	<1	<1%	<1	<1%
Energy[a]	<1	<1%	541	48%
On-Road Mobile Sources	123	70%	339	30%
Waste	<1	3%	41	4%
Water/Wastewater	7	27%	69	17%
Campfires	N/A	N/A	18	2%
Total	**131**	**100%**	**1,008**	**100%**
BAAQMD Bright-Line Threshold	1,100		1,100	
Exceeds Bright-Line Threshold?	**No**		**No**	
Service Population[d]	374		1,576	
Buildout Efficiency Metric Significance Threshold (Plan-Level)	6.56 $MTCO_2e$/SP/Year[b]		1.22 $MTCO_2e$/SP/Year[b]	
Project Emissions Per Service Population	0.34 $MTCO_2e$/SP/Year		0.64 $MTCO_2e$/SP/Year	
Exceeds Efficiency Threshold?	**No**		**No**	

Note: Emissions may not total to 100 percent due to rounding. Opening and buildout years are estimates. The proposed project includes an experimental forest component that would increase carbon sequestration on-site. However, emissions benefits from carbon sequestration are conservatively not included in the emissions modeling.

a. New buildings are assumed to achieve the 2016 Building Energy Efficiency Standards which are 5 percent more energy efficient for nonresidential structures and 28 percent more energy efficient for residential buildings compared to the 2013 Building Energy Efficiency Standards. Under the Building Energy Efficiency Standards, multi-family buildings four stories and higher are regulated under the non-residential standards. Modeling is conservative because the 2019 Title 24 Standards take effect on January 1, 2020, and it is anticipated that the proposed structures would conform to this latest standard, which is 30 percent more energy efficient for non-residential buildings than the 2016 Building and Energy Efficiency Standards.(California Energy Commission. 2018. 2019 Building Energy and Efficiency Standards Frequently Asked Questions)

b. Based on the Land Use Sector Inventory 2008 Scoping Plan and extrapolated from year 2020 to the mid-term year 2030 GHG reduction target of SB 32. Project-level thresholds are based only on the State's land use emissions inventory sectors identified in the Scoping Plan to ensure consistency with the scope of emissions included in a development project's GHG emissions inventory; and are therefore, more stringent than the plan-level thresholds, which include all GHG sectors.

c. Based on the Land Use Sector Inventory 2008 Scoping Plan and adjusted to the 2030 GHG reduction target of SB 32.

d. Daytime service population includes average daily visitors and staff. Opening Day: 8 staff and 366 average visitors per day; Buildout: 52 staff and 1,524 average visitors per day.

Source: PlaceWorks, CalEEMod 2016.3.2.

GHG-2 Implementation of the proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

CARB's Scoping Plan

The 2017 Scoping Plan, which establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030 corresponds to a 40 percent decrease in 1990 levels by 2030,[33] is applicable to State agencies and is not directly applicable to cities/counties and individual projects. Nonetheless, the 2017 Scoping Plan has been the primary tool that is used to develop performance-based and efficiency-based CEQA criteria and GHG reduction targets for climate action planning efforts. The 2017 Scoping Plan provides the strategies for the state to meet the 2030 GHG reduction target as established under SB 32.

The project GHG emissions shown in Table 4.7-5 include reductions associated with statewide strategies that have been adopted since AB 32 and SB 32. Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard, California Appliance Energy Efficiency regulations, California Renewable Energy Portfolio standard, changes in the CAFE standards, and other early action measures as necessary to ensure the state is on target to achieve the GHG emissions reduction goals of AB 32. In addition, new buildings are required to comply with the current Building Energy Efficiency Standards and CALGreen. The 2019 Title 24 Standards take effect on January 1, 2020, and it is anticipated that the proposed structures would conform to this latest standard. Additionally, the proposed project includes an experimental forest component that would increase carbon sequestration on-site. The proposed project would comply with these GHG emissions reduction measures since they are statewide strategies. Therefore, the project's GHG emissions would be reduced from compliance with statewide measures that have been adopted since AB 32 was adopted. Therefore, impacts would be *less than significant*.

ABAG/MTC Plan Bay Area

To achieve ABAG's/MTC's sustainable vision for the Bay Area, the Plan Bay Area land use concept plan concentrates the majority of new population and employment growth in PDAs. While the proposed project is not within a PDA,[34] one of the key principles of the proposed project is to encourage the efficient use of land through sustainable development patterns, a mixture of uses, and development intensities that support transit and walking. The City of Concord's Area Plan provides a vision for a world-class development with integrated mass transit; residential and commercial uses; and a diversity of parks, greenways, and open spaces. The future Regional Park was envisioned as a key piece within the green space network of the development, and as complementing the more active park spaces within the community. The future Regional Park would emphasize resource preservation and enhancement, balancing and adding value to the planned adjacent development. As the designated Conservation Area for the Reuse Area, the future Regional Park would also provide partial mitigation for impacts of the City's development within the Reuse Area. Therefore, the proposed project would not conflict with the land use concept plan in Plan Bay Area and impacts are considered *less than significant*.

[33] California Air Resources Board, 2017, California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on May 10, 2018.

[34] Plan Bay Area, 2018, Priority Development Area Showcase, http://gis.abag.ca.gov/website/PDAShowcase/, accessed on May 10, 2018.

Concord Reuse Project Area Climate Action Plan

Area Plan's CAP includes strategies to reduce the climate impacts from the Area Plan, which includes the project site.

The future Regional Park is envisioned as a model regional park that exemplifies sustainable park development and management within a rich historic and ecological landscape. The future Regional Park would fit into the mixed-use development pattern of the Area Plan as designated green space, and would include pedestrian and bicycle facilities to promote multimodal transportation (consistent with Area Plan CAP Policy T-2.1). Additionally, buildings constructed under the proposed project would minimize energy use in order to meet the performance standards for green building and energy efficiency established in Sitewide Standard CA-3 (consistent with Book One Standard CF-17) and CAP Principle Energy E-1. Specific strategies employed to meet the performance standards may evolve over time to reflect applicability, cost, and efficacy of available technologies and methods. Likewise, during construction the proposed project would manage and, to the extent feasible, reuse or recycle the debris generated by the demolition of storage bunkers, roads, railroad revetments, and buildings in accordance with Waste Policy 1.4 in the Area Plan's CAP. On-site water consumption will be minimized through fixture efficiency (consistent with Policy WR-1.1), water-efficient landscaping, and low-water irrigation strategies (consistent with Policy WR-1.2).

The program is designed to achieve the target expressed in Climate Action Objective 2: annual per capita GHG emissions below 4.6 MT CO_2e by 2020 and 2.8 MT CO_2e by 2030, consistent with both California's Global Warming Solutions Act of 2006 (AB 32) and Executive Order S-3-05.[35] As shown in Table 4.7-5, GHG emissions associated with the proposed project would be below annual per capita emissions thresholds both at the opening year (2023) and buildout year (2050). Therefore, the impact would be *less than significant*.

Significance without Mitigation: *Less than significant.*

4.7.4 CUMULATIVE IMPACTS

GHG-3	**Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to GHG emissions.**

As described above, GHG emissions related to the proposed project are not confined to a particular air basin but are dispersed worldwide. Therefore, the analysis of impacts in Section 4.7.3, Impact Discussion, also addresses cumulative impacts. Thus, if the proposed project exceeds the BAAQMD's significance criteria in the context of emissions from all other development (e.g., Concord Reuse Project) projected within the entire SFBAAB, it would cumulatively contribute to impacts. As identified under Impact GHG-1,

[35] City of Concord, 2012, Concord Reuse Project Area Plan, Book Three: Climate Action Plan, January 12, https://mtc.ca.gov/sites/default/files/Concord%20Naval%20Weapons%20Station%20Reuse%20Plan%202012%20Book%203.pdf, accessed on May 10, 2018.

GREENHOUSE GAS EMISSIONS

Table 4.7-5 shows that implementation of the proposed project would not exceed BAAQMDs bright-line threshold or efficiency metric; therefore, GHG emissions would result in a less than significant impact. Consequently, cumulative GHG emissions impacts of the proposed project would be *less than significant*.

Significance without Mitigation: *Less than significant.*

4.8 HAZARDS AND HAZARDOUS MATERIALS

This chapter describes the regulatory framework and existing conditions on the project site related to hazards, hazardous waste and hazardous materials, and the potential impacts of conditions associated with the project site, project construction and project operations. Wildfire hazards are discussed in Chapter 4.16 of this Draft EIR. The analysis in this section is based, in part, upon the following sources:

- City of Concord, 2008. Concord Community Reuse Plan, Draft Environmental Impact Report.
- City of Concord, 2010. Concord Community Reuse Plan, Final EIR.
- City of Concord. 2012. Final EIR Addendum and Initial Study of Environmental Significance for the Concord Reuse Project Area Plan.
- U.S. Department of the Navy, Naval Facilities Engineering Command Headquarters, 2014. Draft Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord, Concord.
- U.S. Department of the Navy, Naval Facilities Engineering Command Headquarters, 2017. Final Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord, Concord.
- TriEco-Tt, A Joint Venture of Tri Eco LLC and Tetra Tech, 2017. Final Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

Beginning in 1941, the Concord Naval Weapons Station was used for ammunition storage and logistical support to other Navy installations. On-site structures included administrative buildings, residential areas, military barracks, storage magazines (i.e., the Magazine Area or “Bunker City”), and maintenance facilities, many of which have been since demolished. Within the project area there were areas used for munitions storage, target practice, support buildings, rocket practice area, and disposal sites.

The Inland Area of U.S. Naval Magazine Port Chicago (NMPC) included 75 high-explosives magazines located in the hills, a group of 93 gun-ammunition magazines on the flat land, and 30 barricaded railroad sidings. The facility was described by the Bureau of Ordnance as “the principal ammunition loading port and storage point for ammunition and high explosives on the Pacific Coast.” From 1945 to 1963, NMPC continued to serve as a weapons storage facility, while providing support to the U.S. naval fleet. In 1963, it was re-designated as the US Naval Weapons Station Concord (CNWS).

The CNWS was the principal site for transshipment of ordnance and other supplies to US troops in all branches of the military during the Vietnam War. The Inland area of the CNWS was mothballed in 1999 due to changes in military operations, and the Base Closure and Realignment Commission (BRAC) officially approved the Inland area for closure in November of 2005.

The project site has been assessed for hazardous materials contamination through various site investigations and remediation (clean up) efforts that have been conducted between 1983 and 2017. Site work related to the remediation of remaining areas that need additional assessment and remediation will be completed prior to the Navy conveyance of the remaining areas of the Regional Park to the District. Remediation activities have been evaluated in the Environmental Impact Statement for the Disposal and

Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord.[1] The Draft EIS was released in October 2014 and the Final EIS was released in August 2017.[2] The Navy completed a Finding of Suitability to Transfer (FOST) in 2017. The FOST determined that the project site is suitable to be transferred following an environmental review of the site based on site history, environmental site assessment, and remediation at some locations.[3] It is anticipated that this acreage will be transferred and conveyed to the Park District in 2019 under a Public Benefit Conveyance authority. Areas that are not environmentally suitable for transfer that may still be going through assessment and will require additional remediation prior to transfer and conveyance were excluded from the FOST and are not included in the project site.

Within the 2,543-acre Regional Park, only 86 acres (3.4 percent) of the overall park space have been planned for recreational uses and park facilities (including 35 acres within Recreation/Staging Units). Park elements, including roads and trails, picnic areas, education and event spaces, and campsites, will be concentrated in previously disturbed areas to limit impacts to natural ecosystems.

4.8.1 ENVIRONMENTAL SETTING

4.8.1.1 REGULATORY FRAMEWORK

Federal Regulations

Installation Restoration Program

The CNWS is participating in the Installation Restoration Program (IRP), a specially funded program established by the Department of Defense (DoD) in 1978 to identify, investigate, and remediate contamination from hazardous substances, pollutants, and contaminants at active or operating military and other DoD facilities. There is a Federal Facilities Site Remediation Agreement (FFSRA) between the Navy, the State of California Department of Toxic Substances Control (DTSC), and the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB). The purposes of the FFSRA are to establish roles and responsibilities of the parties; establish an enforceable schedule for environmental investigations and cleanup actions; and ensure that the Navy obtains the necessary funding for the environmental investigations and actions.

Comprehensive Environmental Response, Compensation, and Liability Act

Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), known as Superfund, on December 11, 1980. CERCLA establishes prohibitions and requirements concerning closed and abandoned hazardous waste sites; provides for liability of persons responsible for

[1] U.S. Department of the Navy Naval Facilities Engineering Command, 2017, Final Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord, Concord, California.

[2] U.S. Department of the Navy Naval Facilities Engineering Command, 2017, Final Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord, Concord, California.

[3] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

releases of hazardous waste at these sites; and establishes a trust fund to provide for cleanup when no responsible party could be identified.

The Navy has been performing environmental restoration activities at the former CNWS under CERCLA since 1982, when it performed an Initial Assessment Study (IAS) to identify sites where contamination was suspected to pose a threat to human health or the environment.[4] For suspected contamination, analytical sampling was recommended to confirm or deny contamination. Thirty-two Installation Restoration (IR) sites were investigated facility-wide during the IAS. The IAS was followed by a Site Investigation (SI) study of the Inland Area (known as the Inland Area SI) that was completed in 1993.[5]

The former CNWS was placed on the CERCLA National Priorities List (NPL) on December 16, 1994, under United States Environmental Protection Agency (US EPA) ID CA7170024528. The NPL does not describe releases in precise geographical terms, which is consistent with the limited purpose of the NPL as a mere identification of releases. Therefore, listing on the NPL, especially for large sites like the CNWS, does not mean that the entire property has known or threatened releases of hazardous substances.

On June 12, 2001, the Navy entered into a Federal Facility Agreement (FFA) with US EPA Region 9 and the State of California Environmental Protection Agency (CalEPA) under CERCLA Section 120.[6] The FFA requires that the Navy investigate and remediate actual or threatened releases of hazardous substances, pollutants, and contaminants at the former CNWS in accordance with CERCLA Section 120; specific sections of the Resource Conservation and Recovery Act (RCRA); Executive Order (EO) 12580, entitled Superfund Implementation; the Defense Environmental Restoration Program (DERP); and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The FFA listed the areas and sites considered to be areas of contamination, established goals and responsibilities among the Navy and the regulatory agencies, and set enforceable cleanup schedules for the sites. A Restoration Advisory Board, which first met in 2001, consists of Navy and community representatives and state and federal regulators who advise the Navy on environmental cleanup issues and strategies. The FFA superseded the FFSRA and defines the Navy's corrective action and response obligations under RCRA and CERCLA for the CERCLA sites that have been identified at former CNWS.

The Navy is complying with CERCLA by conducting the Navy Environmental Restoration Program to address releases of hazardous substances at the former CNWS and ensure adequate protection of human health and the environment. Potential environmental effects of CERCLA response actions (such as soil excavation, soil transport, and operation of treatment systems) are evaluated by the Navy and regulatory agencies during the CERCLA process. The Navy and the regulatory agencies consider future redevelopment and reuse of the site during the CERCLA decision-making process.

With regard to the federal real property disposal process to non-federal entities, CERCLA requires the federal government to:

[4] Ecology and Environment, Inc., 1983, Initial Assessment Study of Naval Weapons Station Concord, California.

[5] PRC and Montgomery Watson, 1993, Draft Site Investigation Report, Inland Area Sites, Naval Weapons Station Concord, California.

[6] U.S. Environmental Protection Agency, 2001, Federal Facility Agreement under CERCLA Section 120, Naval Weapons Seal Beach Detachment Concord, Concord, California.

- Give notice of hazardous substance activity to the grantee (120[h][3][A][i]);
- Include a covenant in the deed that "all remedial action necessary to the protect human health and the environment with respect to any such substance remaining on the property has been taken before the date of such transfer" (120[h][3][A][ii][I]);
- Include a covenant in the deed that the United States will return and perform any additional remedial action that may be required in the future (120[h][3][A][ii][II[); and
- Retain a perpetual right of access necessary to perform such additional response actions (120[h][3][A][iii]).

A decision that no further action is required in order to protect human health and the environment, made by the Navy or an environmental regulator under the laws and regulations listed above, also supports a Navy determination under Section 120(h) of CERCLA that all remedial action necessary to protect human health and the environment with respect to any such substance remaining on the property has been taken.

Current information regarding the BRAC process programs is maintained as part of the Navy's administrative record and can be found in the local information repository at the Concord Public Library or on the CNWS webpages of the Navy BRAC PMO website at: http://www.bracpmo.navy.mil. The Navy continues work under its environmental program to make the property environmentally suitable for transfer.[7]

Resource Conservation and Recovery Act

RCRA enacts a regulatory system that provides for the "cradle to grave" regulation of hazardous wastes. Any business, institution, or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed. The DTSC is responsible for implementing the RCRA program, as well as California's own hazardous waste laws, under California's Hazardous Waste Control Law, Calif. Health & Safety Code section 25100 *et seq.*

RCRA sites were evaluated and addressed under the Navy's CERCLA and Defense Environmental Restoration Program (DERP) authority as well as sites addressed under the corrective action requirements of RCRA Subtitle C (for solid waste management units [SWMUs]), RCRA Subtitle I (for underground storage tanks [UST]), and associated state laws and regulations administered by the US EPA, the State of California, and Contra Costa County. These corrective action authorities are similar to CERCLA in that they require response and corrective action where necessary to ensure adequate protection of human health and the environment (Section 121(d) of CERCLA, Health and Safety Code (HSC) Section 25296.10(b), Title 23 California Code of Regulations (CCR) Sections 2720 (definition of "corrective action") and 2725(c), and Title 22 CCR Section 66264.101(a).

[7] U.S. Department of the Navy, 2018, Naval Facilities Engineering Command, Former Naval Weapons Station Seal Beach Detachment Concord BRAC, https://www.bracpmo.navy.mil/brac_bases/california/nws_seal_beach_concord/documents.html, accessed on April 19, 2018.

Finding of Suitability to Transfer

Before transfer of the property, the Navy and regulatory agencies must ensure that all applicable statutory and regulatory requirements have been satisfied. The Navy prepares a Finding of Suitability to Transfer (FOST) for the transfer of title to real property by deed to non-federal entities. A FOST summarizes how the applicable requirements and notifications for the disposal and remediation of hazardous materials, petroleum products, and other regulated materials (such as asbestos containing materials and lead–based paint) have been satisfied and that the property is environmentally suitable for transfer. A FOST also addresses any restrictions, notifications, or deed covenants related to hazardous materials at the surplus property. Any long-term remedies, including land use covenants (LUCs) and institutional controls (ICs), and responsibilities for maintenance and reporting are discussed in a FOST. A FOST is forwarded to the US EPA and State agencies for review and comment.[8]

Pursuant to CERCLA and Title 40 of the Code of Federal Regulations (CFR) Part 373, the deeds for the FOST Parcel will contain, to the extent such information is available on the basis of a complete search of agency files, a notification of hazardous substances stored for one (1) year or more, or known to be released, or disposed of within the FOST Parcel, consisting of a notice of the time at which such storage, release, or disposal took place.

The FOST includes a discussion of the environmental conditions and actions taken on the FOST Parcel, identification of notification requirements related to CERCLA including munitions response and radiological sites, RCRA petroleum corrective action, and information regarding ACM, LBP, pesticides, and polychlorinated biphenyls (PCB).

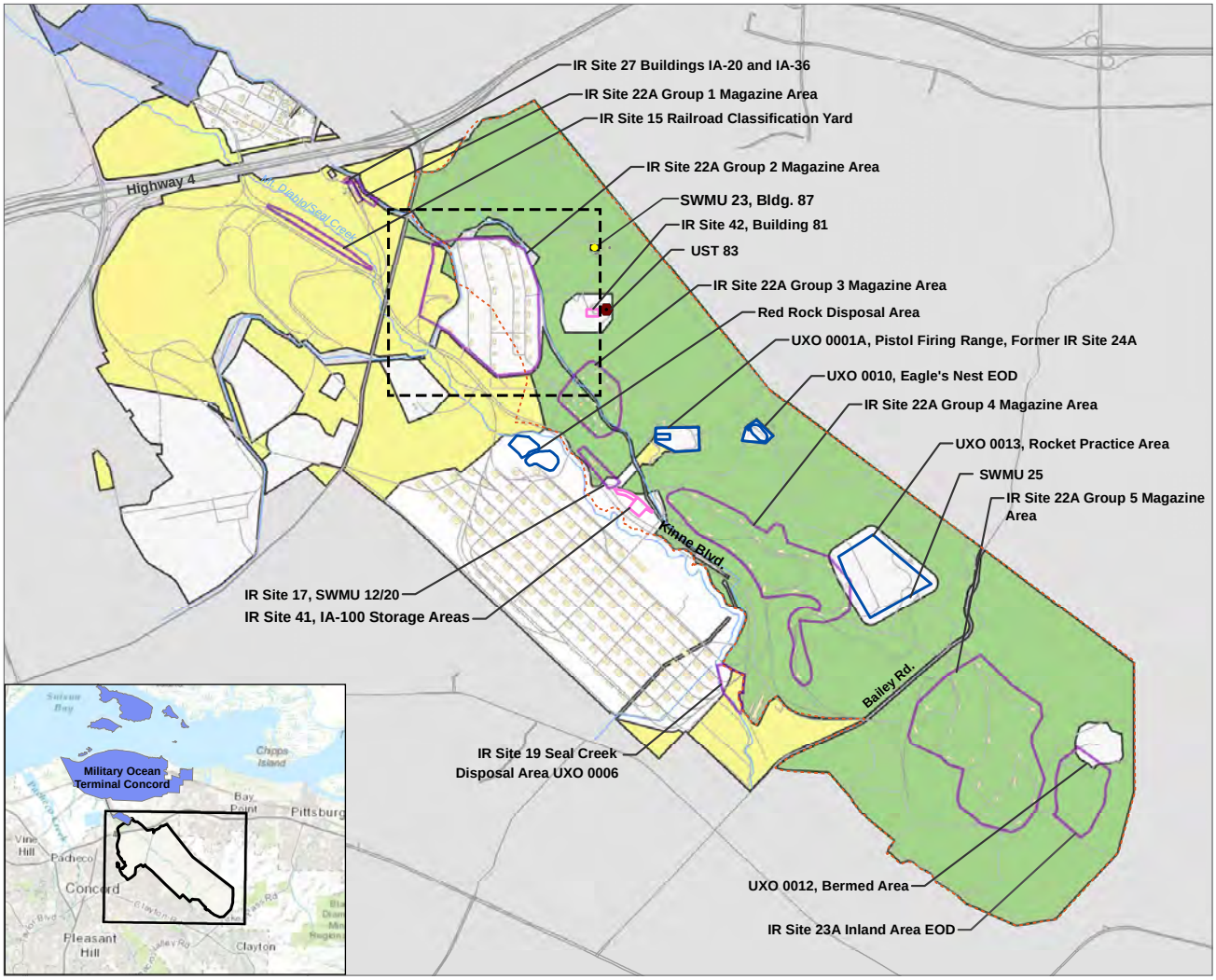
In August 2017 the former CNWS was found suitable to transfer, as set forth in the final FOST.[9] The FOST provides documentation that the real property made available through closure of former CNWS is environmentally suitable for transfer by deed. Sites or areas not suitable for transfer have been excluded from the footprint of the FOST Parcel. Figure 4.8-1 shows the project site and the areas that were not included as part of the 2017 FOST. These areas are not included due to ongoing investigations within the site boundaries. These areas are within the boundaries of the proposed Plan in order to plan comprehensively for the future of the Regional Park site. However, these areas would not be conveyed to the District until or unless the Navy determines they are environmentally suitable for transfer.

The FOST include 1,235 acres of land in the Economic Development Conveyance (EDC) and 2,288 acres in the Public Benefit Conveyance (PBC). The project site is located within the PBC portion of the transferred land.

[8] U.S. Department of the Navy, 2006, Final Environmental Condition of the Property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[9] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

HAZARDS AND HAZARDOUS MATERIALS



Source: United State Department of the Navy, 2017.

Figure 4.8-1
Project Site and Areas Excluded from FOST

State Regulations

California Department of Toxic Substances Control

The CNWS also previously operated under a DTSC permit as a hazardous waste facility. The DTSC regulates the generation, transport, treatment, storage, and disposal of hazardous waste under RCRA and the California Hazardous Waste Control Law. In 2003, DTSC closed the permitted hazardous waste facilities at the site and certified them as requiring no further action.[10]

Asbestos-Containing Materials Regulations

State-level agencies, in conjunction with the US EPA and OSHA, regulate the removal, abatement, and transport procedures for asbestos-containing materials (ACM). Releases of asbestos from industrial, demolition, or construction activities are prohibited by these regulations and medical evaluation and monitoring is required for employees performing activities that could expose them to asbestos. Additionally, the regulations include warnings that must be heeded and practices that must be followed to reduce the risk for asbestos emissions and exposure. Finally, federal, State, and local agencies must be notified prior to the onset of demolition or construction activities with the potential to release asbestos.

California Fire Code

The California Fire Code (CFC) is Part 9 of Title 24 of the California Code of Regulations. Updated every three years, the CFC includes provisions and standards for emergency planning and preparedness, fire service features, fire protection systems, hazardous materials, fire flow requirements, fire hydrant locations and distribution, and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas.

California Department of Forestry and Fire Protection

The California Department of Forestry and Fire Protection (CAL FIRE) is dedicated to the fire protection and stewardship of over 31 million acres of California's wildlands. The Office of the State Fire Marshal (OSFM) supports CAL FIRE's mission to protect life and property through fire prevention engineering programs, law and code enforcement, and education. OSFM provides for fire prevention by enforcing fire-related laws in state-owned or operated buildings; investigating arson fires in California; licensing those who inspect and service fire protection systems; approving fireworks for use in California; regulating the use of chemical flame retardants; evaluating building materials against fire safety standards; regulating hazardous liquid pipelines; and tracking incident statistics for local and state government emergency response agencies. The California Fire Plan is the state's road map for reducing the risk of wildfire through planning and prevention and aims to reduce firefighting costs and property losses, increase firefighter

[10] Department of Toxic Substances Control (DTSC), 2003, Letter regarding Approval of Closure Report and Certification for Concord Naval Weapons Station, Concord California (EPA ID No. CA7170024528). From Mohinder S. Sandhu, Chief, Standard Permits and Corrective Action Branch, DTSC to Randy Cate, Engineer in Charge, Department of the Navy, Engineering Field Activity West.

safety, and contribute to ecosystem health. The California Fire Plan is a cooperative effort between the State Board of Forestry and Fire Protection and CAL FIRE.

District Regulations

East Bay Regional Park District Master Plan (2013)

The East Bay Regional Park District (District) Master Plan, adopted July 16, 2013, provides policy direction for resource stewardship and development of parks within the jurisdiction of the District. The Master Plan also includes a vision, a mission statement, and policies and goals related to hazards, in the Key Elements of the Planning Process and Natural Resource Management sections:

- KEP4: The District will participate in efforts to protect scenic or cultural resources, develop larger, multi-agency open space preserves, provide recreational opportunities, protect agricultural use, avoid hazards and plan for appropriate urban growth boundaries….
- NRM6: The District will evaluate exotic eucalyptus, Monterey pine and cypress plantations, shrubland or woodland area occurring along the wildland/urban interface on a case-by-case basis for thinning, removal and/or conservation to a less fire-prone condition, following the methods laid out in the Fuels Management Plan. The District will minimize the widespread encroachment of exotic and/or invasive species such as coyote brush, poison oak and broom, etc. on parkland and work to preserve native plants where feasible.

Ordinance 38

Portions of District Ordinance 38, Sections 403 to 900 pertain to hazards and hazardous materials.

- Section 404: Fires. No person shall build, light or maintain any open outdoor fire on park property except in those facilities or areas provided and so designated for that purpose. Exceptions to this requirement must be obtained in writing from the District Fire Chief. No person shall leave a fire unattended on District parklands.
- Section 404.2: Restriction. Fires. No person shall smoke or build fires of any kind in areas where prohibited and posted during declared fire season. Extreme conditions may cause the elimination of all open flames for any purpose, or the evacuation or closure of a park.
- Section 900.3: Household or Industrial Materials. No person, firm, or business shall bring household or industrial garbage, trash or waste materials into any lands owned or operated by the District for the purpose of placing such materials into any trash can, dumpster, or receptacle provided by the District.

East Bay Regional Park District General Conditions

The District's General Conditions contain the following rules for contractors, regarding hazards and hazardous materials:

- Article 24 Hazardous Materials.
  (a) Definition. As used herein, hazardous materials shall include all items listed in any statute, ordinance or publication defining hazardous materials including, but not limited to, common

household items containing substances now or subsequently listed as a hazardous material or substance, chemicals, drugs, any materials used for laboratory analysis, nuclear and/or radioactive materials, toxic substances, hazardous substances, hazardous wastes, contaminated or polluting substances, materials or waste toxic, caustic, corrosive, gaseous or flammable substances that may cause injury, illness or death to living organisms.

(b) Approval. The Contractor shall not use any hazardous material in connection with this project without the prior written approval of the District Representative. Ten (10) working days prior to using a hazardous material, the Contractor shall submit to the District Representative complete Material Safety Data Sheet (MSDS) information, product specifications, and a document stating the application rate and method and including the name of the manufacturer's local representative and emergency telephone numbers. All materials shall be properly labeled in accordance with applicable laws. The District Representative's response to the Contractor's request for approval of hazardous materials use shall not affect the Contractor's obligation to comply with the provisions of this section.

(c) Application. In using hazardous materials, the Contractor shall:

1. Notify the District Inspector of the application schedule at least five (5) working days in advance.
2. Comply with all applicable federal, state, and local laws, regulations, and ordinances relating to the use and disposal of hazardous materials and containers, environmental protection, industrial hygiene, worker and public safety.
3. Supply protective clothing or equipment as required by applicable federal or state law for all persons handling hazardous materials, and for the District Inspector as required for inspection of the work.
4. Be responsible for the notification of all concerned parties adjacent to or affected by said hazardous material and as directed by the District Inspector.

(d) Special Situations. In the event the Contractor encounters material on the site reasonably believed to be asbestos, polychlorinated biphenyl (PCB) or any other hazardous or toxic substance, the Contractor shall immediately stop work in the areas affected and report the condition to the District Representative. If in fact the material is asbestos, polychlorinated biphenyl (PCB) or any other hazardous or toxic substance which has not been rendered harmless, the work in the affected area shall not be resumed except by written agreement between the District Representative and the Contractor. The work in the affected area otherwise shall only be resumed when asbestos, polychlorinated biphenyl (PCB) and other hazardous or toxic substances have been removed or rendered harmless.

- Article 25. Safety and Public Convenience.

(a) Responsibility for Safety. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs. All work shall conform to the requirements of the California Administrative Code, Title 8, Industrial Relations, Division of Industrial Safety. The Contractor alone shall be responsible for responding to and for the final satisfaction of any and all claims of personal injury or property damage.

(b) Safety Equipment and Workers. The Contractor shall take all reasonable measures as required by existing conditions and performance of the Contract to protect the public and their property. The Contractor shall provide adequate barricades, fences, signs, warning lights, watchpersons, flag persons, etc., to protect the public and their property. Safety devices and workers shall comply with the current State of California "Manual for Warning Signs, Lights and Devices for Use in Performing Work Upon Highways," as a minimum standard. All lighting shall be electric powered and left on from sunset to sunrise.

(c) Trench and Excavation Safety. As required by the California Labor Code §6705, whenever any portion of the work involves excavating or trenching five feet or deeper, the Contractor shall submit for acceptance by the District, a detailed plan showing the design of shoring, bracing, sloping, etc., to protect the Contractor's workers, District personnel, and the public at large. If the plan varies from standard shoring systems established by the Construction Safety Orders of the Division of Industrial Safety, the plan shall be prepared by a registered civil or structural engineer employed by the Contractor. All costs for trenching, excavation safety, including engineering, shall be included within the Contract Bid.

(d) Unauthorized Vehicles. When required by this Contract or the District Inspector, the Contractor shall take measures to prevent unauthorized vehicular traffic.

(e) Material and Equipment Transportation. Trucks hauling material or equipment shall not exceed vehicle or posted load and speed limits.

(f) Public Convenience. The Contractor shall conduct the work so as to ensure the least possible obstruction to traffic or inconvenience to the general public.

(g) Failure to Provide for Safety. If in the opinion of the District Inspector, the Contractor fails to adequately provide for safety, the District Inspector may:

1. Suspend construction within the area.

2. Order and/or place any additional warning devices, barriers, or protective equipment deemed necessary.

- Article 26 Fire Hazards and Preventions.

(a) The Contractor will be held responsible for fire ignited by the Contractor's employees, subcontractors, or equipment. Employees shall not be allowed to start fires. No open flames shall be permitted.

(b) The Contractor shall take necessary precautions to guard against and eliminate fire hazards that may cause damage to construction work, building materials, equipment, public, and private property, including grassland, brush, and trees.

(c) Flammable materials shall not be poured into drain lines, but shall be disposed of in a legal manner.

(d) Fire hydrants shall be kept accessible to fire-fighting equipment at all times.

(e) Contractors shall comply with state law requirements for burning and use of combustion engines including but not limited to Public Resources Code sections 4427, 4431, 4435, and 4442.

East Bay Regional Park District Wildfire Hazard Reduction and Resource Management Plan (2009)

The District's Wildfire Hazard Reduction and Resource Management Plan (Wildfire Hazard Plan) provides long-term strategies for reducing fuel loads and managing vegetation within District lands. The plan identifies and describes the vegetation types and their associated fuel characteristics and identifies potential fuel treatment methods. Specific recommendations and guidelines for reducing fuel loads and managing vegetation at recommended treatment areas are also provided. Recommendations include types and frequency of fuel treatment actions, considerations for selecting treatments, suggested end-state vegetation types, and concerns regarding plant and animal species and other site-specific features that could potentially be affected by fuel treatment activities. Because the project site was not yet transferred to the District at the time that the Wildfire Hazard Plan was written, the Wildfire Hazard Plan does not include site-specific vegetation treatment goals, treatment actions, or best management practices (BMP) for the project site. However, the District would apply the general fuel treatment methods, vegetation management practices, and monitoring activities of its Wildfire Hazard Plan to the project site.

Local Regulations

Certified Unified Program Agency

In California, a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) is implemented at the local level by a Certified Unified Program Agency (CUPA). The CUPA has responsibility in its jurisdiction for the six elements of the Unified Program: hazardous waste generator and on-site hazardous waste treatment; underground storage tanks (USTs); aboveground storage tanks (ASTs); hazardous materials release response plans and inventories; accidental release prevention; and Uniform Fire Code hazardous materials management plans and inventories. The CUPA for Contra Costa County is Contra Costa Health Services (CCHS).

Contra Costa County Hazardous Materials Area Plan

The Contra Costa County Hazardous Materials Area Plan (HMAP) describes the overall hazardous materials emergency response organization within Contra Costa County designed to protect human health and the environment. The HMAP includes the identification of hazardous materials incident planning, operations, organization and responsibilities for handling a hazardous waste incident and provides support for hazardous materials management including data management, business plans and facility inspections.[11]

Contra Costa County/Local Hazard Mitigation Plan (with City of Concord Annex)

Contra Costa County updated its Local Hazard Mitigation Plan in 2018, with the participation of the City of Concord, whose specific policies are included as an "annex".[12] The project site lies within the planning

[11] Contra Costa County (CCC), 2016, Contra Costa County Hazardous Materials Area Plan.

[12] Contra Costa County, 2018, Contra Costa County Hazard Mitigation Plan Volume 1 –Planning Area-Wide Elements, Draft Final January 2018; and Volume 2, Planning Partner Annexes

area for the Local Hazard Mitigation Plan. The plan complies with federal and state hazard mitigation planning requirements to establish eligibility for funding under Federal Emergency Management Agency (FEMA) grant programs. The Disaster Mitigation Act (DMA; Public Law 106-390), passed in 2000, shifted the federal emphasis toward planning for disasters before they occur. The DMA requires state and local governments to develop hazard mitigation plans as a condition for federal disaster grant assistance. Regulations developed to fulfill the DMA's requirements are included in Title 44 of the Code of Federal Regulations. The current update meets federal requirements for updating hazard mitigation plans on a five-year cycle. Risk assessment models were used in order to rank hazards and gauge potential impacts of each hazard of concern. Earthquake hazard was ranked as high followed by landslides, severe weather, wildfire, dam and levee failure, flood, sea level rise, tsunami, and drought.

The hazard mitigation plan outlines activities designed to reduce or eliminate losses resulting from natural hazards. Contra Costa County Office of Emergency Services opened the planning process for the hazard mitigation plan to all eligible local governments within the planning area. Planning partners included the City of Concord, as well as local police departments, fire departments, city planning directors, public works departments, school districts, and water and sanitation districts.

National, State, and county databases were reviewed to locate available spatially based data relevant to the Hazard Mitigation Plan. Maps were produced using geographic information system (GIS) software to show the spatial extent and location of hazards when such datasets were available.

Contra Costa County Fire Protection District

The Contra Costa County Fire Protection District (CCCFPD) provides fire and emergency medical services (EMS) to nine cities, including Concord, and the adjacent unincorporated areas within Contra Costa County. In addition to services provided by CCCFPD personnel, the District also maintains automatic mutual aid agreements with all fire agencies in Contra Costa County including the East Contra Costa Fire Protection District, the East Bay Regional Parks District, CAL FIRE, and private industrial companies located within its jurisdiction. These agreements provide the CCCFPD with emergency response assistance on an as-needed basis.[13] Proposed development would be subject to review by the CCCFPD for compliance with adopted emergency response plans. CCCFPD requires adequate access roads and building markings to facilitate emergency response.

Airports

Airport authorities and other agencies regulate aircraft activity. The State Aeronautics Act of the California Public Utilities Code establishes statewide requirements for airport land use compatibility planning and requires that nearly every county create an Airport Land Use Commission (ALUC) or other alternative. Contra Costa County opted for an ALUC.[14] The Contra Costa County ALUC plan primarily deals with land uses near the two public-use airports in the county: Buchanan Field Airport and Byron Airport. The influence area for each of the airports extends approximately 2 to 3 miles from the airport runways. Both Buchanan Field Airport and Byron Airport are located outside the project area. Buchanan Field Airport is

[13] City of Concord, 2010, Concord Community Reuse Plan Final Environmental Impact Report.
[14] Contra Costa County, 2000, Contra Costa County Airport Land Use Compatibility Plan.

located over 3 miles to the west of the project site and Byron Airport is located over 19 miles to the southeast.

City of Concord 2030 General Plan

The City of Concord 2030 General Plan includes a Safety and Noise Element, the purpose of which is to "identify the natural and man-made hazards that exist within the City, and to mitigate their potential impacts through both preventive and responsive measures."[15] Specific policies related to hazards at the project site are:

- Policy S-5.1.4: Prior to reuse of former commercial, industrial, and military sites, require clean-up to a level consistent with State and federal regulatory agency standards.
- Policy S-5.1.5: Implement hazardous materials remediation plans for the former Concord Naval Weapons Station (Inland Area) to facilitate the reuse of the site for development and conservation.

  The Area Plan for the Concord Reuse Project identifies property transfer responsibilities related to hazardous material clean-up and the management of future construction and demolition activities on the site. A range of pre-development clean up, monitoring, and site management requirements apply. CERCLA requires the federal government to retain liability for hazardous materials on the site and to return and remediate any contamination that may be found in the future. This will be specified in the deed of transfer as property on the site is conveyed."
- Policy S-7.2.3: Ensure that sufficient access for fire protection services is available in all new development.
- Policy S-8.1.1: Maintain an ongoing program for disaster response, including participation in all aspects of emerging, new high-technology solutions.
- Policy S-8.1.2: Coordinate disaster response planning with surrounding cities, agencies, and Contra Costa County.
- Policy S-8.1.4: Implement the City's Local Hazard Mitigation Plan, consistent with the guidelines of the Federal Emergency Management Agency (FEMA) and the Disaster Act of 2000, and seek funding under FEMA's Hazard Mitigation Grant Program.

The LHMP is incorporated by reference into the Concord General Plan.

4.8.1.2 EXISTING CONDITIONS

This section presents an overview of the existing conditions of the site relative to soil and groundwater contamination and hazardous building materials, including a description of prior and current hazardous substances usage at the site. Not all environmental sites within the Inland Area boundary were found suitable for transfer at this time, and some investigative areas remain open in the project area. These open sites or areas are not included in the FOST and are planned to be transferred later upon completion

[15] City of Concord, 2030 General Plan, 2007, page 7-1.

of ongoing environmental investigations or remediation. The potential for these adjacent sites or areas to impact the FOST Parcel is discussed below.

Investigation and cleanup of contamination from past practices at the Inland Area have been conducted in accordance with the Department of Defense's IRP. Past activities included activities such as using open burn pits to dispose of live ordnance (Site 13 – Burn Area), burning fuel oil for firefighter training (Site 13 – Burn Area), using oils and hydraulic fluids to test the structural integrity of munitions casings (Site 27 – Building IA-20), and surface applications of herbicides (Site 22 – Magazine Area). These and similar activities occurring at the site have contributed to the existing conditions of the on-site soils and groundwater today.[16] Site 22, the Magazine Area, is contaminated with arsenic. In 1945, 91 magazines were built in this area to store ammunition and explosives. In 1953, an additional 53 magazines were built around the perimeter. Site 22 was in use until 2000. While in use, herbicides containing arsenic were applied to the surface soils to control weeds and reduce fire hazards. Elevated arsenic levels have since been discovered in the surface soils of Site 22. Soils near the perimeter double fence line and the water in Mount Diablo/Seal Creek were tested. Arsenic concentrations were below background in Mount Diablo/Seal Creek and were generally below background levels along the perimeter double fence line. The distribution of arsenic in soil indicates that the areas with elevated concentrations are the Magazines Area and associated buildings constructed in the 1940s. The elevated levels are primarily in the upper 1/2 foot of soil.[17]

Hazardous Materials

CERCLA Program Sites

In 1983, the Navy initiated an Installation Restoration Program (IRP) in order to evaluate the effects of past operations resulting in contamination that could pose a risk to human health and the environment. The Navy completed an Initial Assessment Study in 1983.[18] When contamination was suspected, analytical sampling was recommended to confirm or deny contamination. Thirty-two Installation Restoration (IR) sites were investigated facility-wide during the IAS.

A Site Investigation (SI) Study in 1993 identified 19 locations that could pose a potential hazard to human health or the environment as a result of past operations within the Inland Area of the former CNWS.[19] The Inland Area SI and subsequent investigations identified 19 IR sites in the Inland Area. Six out of the 19 sites are located wholly or partially within the FOST Parcel and include IR Sites 15, 17, 19, 22A, 23A, and 27 and four of those IR sites are located partially or completely in the project site as shown below in Table 4.8-1.

[16] U.S. Department of the Navy, 2006. Final Environmental Condition of the Property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[17] Tetra Tech, 2007, Draft Final Remedial Investigation Report for Installation Restoration Site 22, Naval Weapons Station Seal Beach Detachment Concord, Concord, California. Prepared for Base Realignment and Closure Program Management Office West, Contract Number N62467-04-D-0055.

[18] Ecology and Environment, Inc., 1983, Initial Assessment Study of Naval Weapons Station Concord, California.

[19] PRC and Montgomery Watson, 1993, Draft Site Investigation Report, Inland Area Sites, Naval Weapons Station Concord, California.

TABLE 4.8-1 INSTALLATION RESTORATION SITES LOCATED IN FOST PARCEL

Identification	Site Name	Status	Closure Action	All or Part Located Within Project Site?
IR Site 15	Railroad Classification Yard	Closed	NFA	No
IR Site 17.	Building IA-24 and Surrounding Area, SWMU 12/20	Closed	NFA	Yes
IR Site 19	Disposal Area/Seal Creek, UXO 0006	Moved to MMRP program Closed	NFA	Yes
IR Site 22A	Magazine Groups 1-5	Groups 1,2 and 4 Closed; Groups 3 and 5: Remedy in Place	No action for GW; No action for soil at Groups 1, 2 and 4; NFA soils at Groups 3 and 5 with LUC for no residential use.	Yes
IR Site 23A	Inland Area EOD	Moved to MMRP program, closed	NFA	Yes
IR Site 27	Buildings IA-20 and IA-36, SWMU 8	Closed	No action for groundwater; soil removal action for PCBs and metals.	No

Note: GW = groundwater; IR = Installation Restoration; LUC = Land Use Control; MMRP = Military Munitions Response Program; NFA = No Further Action; PCB = polychlorinated biphenyls; SWMU = Solid Water Management Unit
Source: U.S. Department of the Navy, 2017.

The sites listed in Table 4.8-1 were determined to be suitable for transfer. Either a no action or No Further Action (NFA) designation were based on the findings of evaluations or cleanup actions that the parcels are suitable for transfer as long as the applicable notifications and restrictions outlined in the FOST have been implemented. NFA designations include parcels that have received NFA designations either because no response action was required to provide adequate protection of human health and the environment, or because the required remedial action has been completed and has received regulatory agency concurrence on the remedial action. Each of the sites is described in detail below.

Ordnance has been stored and used at former CNWS throughout its history as a military installation. Ordnance storage included ship and aircraft weapons systems, combat force weapons, special weapons, and small arms and ammunition used by base security personnel. The Navy has removed all stored ordnance from former CNWS.[20]

Under the Military Munitions Response Program (MMRP), the Navy conducted a search to address munitions and explosives of concern (MEC) and munitions constituents (MC) used or released at sites from past on-site activities. A Preliminary Assessment was done in 2007 for areas previously identified as having MEC or MC.[21] A Final Supplemental Assessment in the Inland Area was implemented in 2009 for

[20] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[21] Malcolm Pirnie, Inc., 2007, Final Preliminary Assessment Military Munitions Response Program, Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

military munitions.[22] The three MMRP sites identified within the FOST Parcel have received regulatory agency closure and are shown in Table 4.8-2.

TABLE 4.8-2 MMRP SITES LOCATED IN FOST PARCEL

Identification	Site Name	Status	Closure Action	Located Within Project Site?
UXO 0005 (IRP Site 13)	Burn Area Near HE-5	Closed	NFA	Yes
UXO 0006 (IRP Site 19, Seal Creek)	Seal Creek Disposal Area	Closed	NFA	Yes
IRP Site 23A	Inland Area EOD	Closed	NFA	Yes

Notes: EOD = Explosive ordinance disposal; IRP = Installation Restoration Program; LUC = Land Use Control; NFA = No further action; UXO = Unexploded ordinance.
Source: U.S. Department of the Navy, 2017.

Other locations of concern investigated without association to an IR or MMRP site that are part of the FOST include pipelines, disposal sites, railroad area are presented Table 4.8-3.

TABLE 4.8-3 OTHER AREAS OF CONCERN LOCATED IN FOST PARCEL

Site Name	Status	Closure Action	Located Within Project Site?
Northern Railroad Excavation A	Closed	NFA	No
Northern Railroad Excavation B	Closed	NFA	No
Northern Railroad Excavation C	Closed	NFA	No
Southern Railroad Excavation T10, T11, and T12	Closed	NFA	No
Unocal Pipeline Area	Closed	NFA	No
Phillips 66 Concord Line 200 Release Site P66CL200	Active	Open and ongoing corrective action	No
C-3 Disposal Area	Closed	NA	No
Nitens Plantation	Closed	NA	Yes
Seal Creek Disposal Area	Closed	NFA	Yes

Notes: NA = No Action; NFA = No Further Action
Source: U.S. Department of the Navy, 2017.

The IR, MMRP, and other areas of concern sites listed in the three tables above that are located within the project area are summarized in the following sections.

[22] Malcolm Pirnie, Inc., 2009, Final Supplemental Preliminary Assessment, Inland Area EOD, Military Munitions Response Program, Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

IR Site 17

IR Site 17 is located about 3 miles east of the main gate along the eastern side of Kinne Boulevard, and is partially contained within the FOST Parcel in the central portion of the Inland Area of former CNWS and is partially located within the project area. IR Site 17 was formerly used for forklift maintenance and battery service and includes Buildings IA-24, IA-55, and surrounding areas. An asphalt-paved parking area for forklift storage and steam cleaning was located near the southeastern wall of Building IA-24. The steam cleaning area historically discharged condensate, oil, and grease through a pipeline from the southwestern side of Building IA-24 and into Seal Creek.

The IAS identified IR Site 17 for additional investigation based on historical use and the SI completed in 1993 recommended the site for a remedial investigation (RI).[23,24] At the conclusion of the Inland Area RI, no chemicals of concern (COC) were found to be elevated in soil, sediment, or the groundwater samples collected.[25] The IR Site 17 Record of Decision (ROD) documented that the site qualifies for a NFA determination and the site is closed.[26] No CERCLA notices or restrictions are required for IR Site 17.[27]

IR Site 19 Seal Creek Disposal Area, UXO 0006

IR Site is approximately 1.5 acres along Seal Creek, northwest of Building 93, and is partially contained within the FOST Parcel and the project site. IR Site 19 was used as a dumping ground, containing construction debris, asphalt, tree cuttings, rubble, wood, drums, and other miscellaneous inert solid waste. IR Site 19 was included in the 1982 IAS because of evidence of waste disposal.[28] The site was investigated during the 1993 SI. Most debris was found to be comprised of inert material during a visual reconnaissance of the creek bed and debris encountered was field-screened with a photoionization detector; no vapors were reportedly detected. Three drums were found on site and the SI report recommended collection of sediment samples followed by proper removal and disposal of the debris and drums accumulated in the creek bed.[29] The Navy collected samples from two drums and the drums and their contents were characterized as nonhazardous and were disposed of at a Class III landfill.[30] The Navy, in October 21, 1994, sent a letter to the regulatory agencies and recommended the site for NFA.

IR Site 19 (UXO 0006) was entered into the MMRP in 2005. UXO 0006 was included in the MMRP PA based on old fire department logs suggesting older waste disposal areas may have been used for ordnance

[23] Ecology and Environment, Inc., 1983, Initial Assessment Study of Naval Weapons Station Concord, California.

[24] PRC and Montgomery Watson, 1993, Draft Site Investigation Report, Inland Area Sites, Naval Weapons Station Concord, California.

[25] PRC Environmental Management, Inc., 1997, Final RCRA Facility Assessment Confirmation Study, Naval Weapons Station Concord, California.

[26] U.S. Department of the Navy, 2005, Final Record of Decision, Inland Area Site 17, Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[27] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[28] Ecology and Environment, Inc., 1983, Initial Assessment Study of Naval Weapons Station Concord, California.

[29] PRC and Montgomery Watson, 1993, Draft Site Investigation Report, Inland Area Sites, Naval Weapons Station Concord, California.

[30] PRC Environmental Management, Inc., 1997, Final RCRA Facility Assessment Confirmation Study, Naval Weapons Station Concord, California.

disposal. IR Site 19 was never identified in fire logs as a munitions waste disposal area, but was included in the MMRP PA based on its history as a waste disposal area. No evidence was found indicating that the site had been used for ordnance disposal, and no MEC was observed during the visual survey conducted on March 15, 2005. The 2007 final MMRP PA report recommended NFA for IR Site 19.[31]

Trenching, soil sampling and soil gas sampling was implemented in the area because of the unknown nature of the debris. The investigation concluded that only inert construction materials were present at the site, no unacceptable risks to human health or the environment were discovered, and NFA was recommended. The Preliminary Assessment Reverification Investigation Report recommended closure for the MMRP Site UXO 0006.[32] Concurrence for NFA was received from the agencies in 2017.[33,34]

No CERCLA notices or restrictions are required for IR Site 19/UXO 0006.[35]

IR Site 22A Magazine Groups 1 – 5

IR Site 22A encompasses 504 acres divided into five subareas, known as Groups 1 through 5 Magazine Areas, each of which is wholly or partially contained within the FOST Parcel. IR Site 22A includes 103 munitions storage magazines connected by roads and railroad spurs and surrounding open grassland. The magazines were constructed during the mid-1940s in order to store munitions and explosives.

- Group 1: 2.4 acres, 6 magazines (not located in the project area).
- Group 2: 154 acres, 39 magazines (partially located in the FOST Parcel and project area).
- Group 3: 39 acres, 18 magazines (located in the FOST Parcel and project area).
- Group 4: 124 acres, 20 magazines (partially located in the FOST Parcel and project area).
- Group 5: 185 acres, 20 magazines (located in the FOST Parcel and project area).

Each magazine was inspected and certified for closure between February 2000 and March 2001. The certification for closure included verification that magazines were visually free of all ammunition storage and explosive residue. In 2007, all Inland Area buildings and storage magazines were further inspected by Naval Surface Warfare Center personnel to evaluate whether any of the buildings contained explosive hazards from previous use. Quantitative samples were collected from a subset of buildings and magazines. No munitions constituents were detected in any of the IR Site 22A magazines at concentrations above hazard threshold limits.

[31] Malcolm Pirnie, Inc., 2009, Final Supplemental Preliminary Assessment, Inland Area EOD, Military Munitions Response Program, Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[32] TriEco LLC and Tetra Tech, Inc., 2013, Final Site Investigation Report Building 93, IA-100 Storage Areas, Unocal Pipeline Site, Northern Railroad Excavation C, and Guam Way, Areas of Potential Interest, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[33] U.S. Environmental Protection Agency, 2017, Letter regarding Final Preliminary Assessment/Reverification Investigation, Former Naval Weapons Station Seal Beach Detachment Concord, California, Dated June 30, 2016. From Yvonne Fong, Remedial Project Manager to Marc Smits, BRAC Environmental Coordinator.

[34] Department of Toxic Substances Control, 2017, Letter Regarding Concurrence with Final Preliminary Assessment/Re-verification Investigation for the Inland Area, Former Naval Weapons Station Seal Beach Detachment Concord, California. From Jim Pinasco, Project Manager, Cleanup Program to Marc Smits, BRAC Environmental Coordinator.

[35] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

Environmental investigations at the five magazine areas within IR Site 22A occurred in 2005 with a SI that included surface soil sampling for analysis of arsenic. The results of the SI showed a distribution of arsenic above background concentrations at IR Site 22A consistent with application of an herbicide around structures. Arsenic was found elevated only in surface soils within 90 feet of some for the Group 1 Magazine Area because arsenic concentrations were below the background level. No further action for Magazines 1,2, and 4.[36]

Arsenic is the only chemical of concern at IR Site 22A and no action was selected. No further action was selected as well for Magazine Groups 2 and 4 because arsenic exposure point concentrations in surface soil (upper 6 inches of soil) were below the remedial goal of 22 mg/kg. However, at Magazine Groups 3 and 5, estimated arsenic exposure point concentrations in surface soil exceeded the remedial goal and, therefore, Institutional Controls to restrict residential use were selected to protect public health.[37]

Radiological clearance for the 35 magazines located in Group 2 which are radiologically impacted is being addressed separately from the arsenic in surface soil that is addressed in the Site 22A ROD. Because the radiological investigations at these magazines are not final, the portion of the Group 2 magazine area that contains the 35 magazines has been excluded from the FOST Parcel.

At IR Site 22A a Final Record of Decision (ROD) was completed in 2015, which selected no action for Magazine Groups 1, 2, and 4. Magazine Groups 3 and 5 require institutional controls (IC) restricting residential reuse.[38] The FOST indicates that no CERCLA notices or restrictions are required for IR Site 22A Magazine Groups 1, 2, and 4. Institutional Controls restricting residential use are required for IR Site 22A Magazine Groups 3 and 5.[39]

IR Site 23A Inland Area Explosive Ordnance Disposal (EOD)

The IR 23A site is an approximately 41-acre area located within the southern portion of the FOST property and project area on a hillside. The site was identified in the IAS based on reports that the EOD team conducted controlled explosions starting in the late 1940s until approximately 1959.[40] Soil sample analysis did not contain detectable levels of explosives.[41] IR Site 23A was transferred to the MMRP and included in the MMRP PA where it is referred to as the "Inland Area EOD." No evidence was found suggesting the site had been used for ordnance disposal, and no munitions or explosives were observed during the visual

[36] U.S. Department of the Navy, 2012, Final Proposed Plan for Inland Area, Former Naval Weapons Station Seal Beach Detachment Concord, Installation Restoration Site 22A, Concord, California.

[37] U.S. Department of the Navy, 2015, Final Record of Decision, Inland Area Site 22A, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[38] U.S. Department of the Navy, 2015, Final Record of Decision, Inland Area Site 22A, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[39] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[40] Ecology and Environment, Inc., 1983, Initial Assessment Study of Naval Weapons Station Concord, California.

[41] PRC and Montgomery Watson, 1993, Draft Site Investigation Report, Inland Area Sites, Naval Weapons Station Concord, California.

survey conducted. A supplemental PA for the Inland EOD confirmed through geophysical surveys that there was no evidence of explosives.[42]

No CERCLA notices or restrictions are required for IR Site 23A.[43]

UXO 0005 – Burn Area Near High Explosives (HE) Group 5

UXO 0005, the Burn Area near HE Group 5, is approximately 92 acres and lies between the Group 5 high explosives magazines and the southeastern boundary of the Inland Area. No visual indications of ordnance disposal or burning were observed during site inspections. Confirmation sampling was implemented to verify that munitions were not present. All samples collected were analyzed for explosive- and propellant-related compounds and metals. No explosives, propellants or metals were detected in the soil samples at concentrations that would indicate that the site was used for munitions or explosive disposal, other munitions activities, or general chemical disposal. The SI report documented the investigation (Tetra Tech 2010).[44] The US EPA and DTSC concurred that a NFA was warranted for closure of MMRP Site UXO 0005/Burn Area near HE-5.[45]

The FOST indicates that there are no CERCLA notices or restrictions required for UXO 0005/Burn Area near HE-5.[46]

Nitens Plantation

The approximately 2-acre Nitens Plantation site was identified as a potential disposal site for waste construction materials. The site was recommended for a NFA based on a geophysical survey in 2003 and was further evaluated during the final Preliminary Assessment/Re-verification Investigation.[47] Scrap metal was found in near surface soil. No other debris and no munitions were encountered in trenches and no further assessment was recommended. The regulatory agencies concurred with the recommendation for NFA in the Preliminary Assessment/Re-verification Investigation Report.[48,49]

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[42] Malcolm Pirnie, Inc., 2009, Final Supplemental Preliminary Assessment, Inland Area EOD, Military Munitions Response Program, Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[43] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[44] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[45] U.S. Environmental Protection Agency, 2010, Letter Regarding Concurrence of No Further Action for Black Pit at Red Rock and Burn Area Near 5AT, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California. From Melinda Garvey, Remedial Project Manager to Kathryn Stewart, BRAC Environmental Coordinator.

[46] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[47] TriEco-Tt, 2016, Final Preliminary Assessment/Re-verification Investigation Report for the Inland Area, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[48] U.S. Environmental Protection Agency, 2017, Letter Regarding Final Preliminary Assessment/Reverification Investigation, Former Naval Weapons Station Seal Beach Detachment Concord, California, June 30, 2016. From Yvonne Fong, Remedial Project Manager to Marc Smits, BRAC Environmental Coordinator.

[49] Department of Toxic Substances Control, 2017, Letter Regarding Concurrence with Final Preliminary Assessment/Re-verification Investigation for the Inland Area, Former Naval Weapons Station Seal Beach Detachment Concord, California. From Jim Pinasco, Project Manager, Cleanup Program to Marc Smits, BRAC Environmental Coordinator.

RCRA Program Sites

The 1992 DTSC RCRA Corrective Action Plan identified 49 Solid Waste Management Units (SWMU) within the Inland Area. In 1993, DTSC issued a RCRA Hazardous Waste Facility Permit (Part B Permit) for former CNWS identifying five permitted hazardous waste treatment and storage units in the Inland Area. None of the five permitted treatment and storage units are located within the FOST Parcel and all the permitted units have been closed.[50]

The permit also identified the 24 SWMUs referenced in the RCRA facility assessment as sites that would require a RCRA facility investigation or equivalent investigation. Nine of the SWMU sites identified on the RCRA permit are located in the FOST Parcel (SWMUs 12, 14, 17, 20, 24, 29, 30, 32, and 54). Table 4.8-4 lists the SWMUs within the FOST Parcel and if they are located within the project site.

TABLE 4.8-4 SWMUS IN FOST PARCEL

Identification	Site Name	Status	Closure Action	Located Within Project Site?
SWMU 12/20	Building IA-24 & Building IA-55 IR Site 17	Closed	NFA	Yes
SWMU 14	Building IA-27 Carpenter Shop	Closed	NFA	No
SWMU 17	Buildings IA-50 Rail Truck Transfer Depot	Closed	NFA	No
SWMU 24	Building 93 Guided Missile Division	Closed	NFA	Yes
SWMU 29	Building 429 Hazardous Waste Accumulation Shed	Closed	NFA	Yes
SWMU 30	Unocal Pipeline Spill Site	Closed	NFA	No
SWMU 32	UST SAT	Closed	NFA	Yes
SWMU 54	Building 79	Closed	NFA	Yes

Note: IA = Inland Area; SWMU = Solid Waste Management Unit; IR = Installation Restoration; NFA = No Further Action; UST = underground storage tank.
Source: U.S. Department of the Navy, 2017.

Five SWMUs are located within the project site and all have received regulatory agency closure. No notices or restrictions are required for any of the former SWMUs.[51]

Petroleum Products, Tanks, and Derivatives

Sites with petroleum products at CNWS have included individual or collections of underground storage tanks (USTs) and aboveground storage tanks (ASTs) and a pipeline release.

[50] Department of Toxic Substances Control (DTSC), 1993, Hazardous Waste Facility Permit.

[51] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

The following USTs and ASTs were identified as having been located within the project site:

- AST 87
- UST 87
- UST79
- UST IA-24
- AST IA-24A
- UST IA-55
- AST IA-55
- AST 96
- UST 96
- UST 5AT

All of the petroleum sites located within the FOST Parcel containing residual petroleum or its derivatives have been closed with a NFA concurrence from the applicable regulatory agencies. There are no notices or restrictions are required for any of the former SWMUs.[52]

Asbestos-Containing Materials

The United States Department of Defense manages ACM in a manner protective of human health and the environment to comply with all applicable federal, state, and local laws and regulations governing ACM hazards.[53] Unless it is determined by a competent authority that ACM on the property poses a threat to human health at the time of transfer, all property containing ACM will be conveyed, leased, or otherwise disposed of as is through the BRAC process.

Four basewide ACM surveys conducted for the entire former CNWS were conducted in 1988, 1989, 1999, and 2000 to evaluate ACM. A basewide asbestos reevaluation survey was conducted in 2016.[54] An environmental condition of property report was implemented which provides the asbestos evaluation results for the 70 buildings and facilities remaining, some of which were located within the FOST Parcel (not demolished). ACM was found in 40 of the 49 buildings that were surveyed for asbestos. ACM was found in materials such as pipe insulation, sealants, mastic, floor tiles, sheet flooring, grout, cinder blocks and mortar, fire-door insulation, transite panels, drywall, gaskets, and roofing. Both friable and non-friable asbestos were reported. Utilities within the FOST Parcel were not investigated; therefore utilities within the FOST Parcel may contain ACM.[55]

[52] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[53] Department of Defense, 1994, Department of Defense Policy on the Environmental Review Process to Reach a Finding of Suitability to Transfer for Property Where Release or Disposal Has Occurred.

[54] TriEco-Tt, 2016, Final Asbestos Reevaluation Investigation Survey Report for the Inland Area, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[55] U.S. Department of the Navy, 2006, Final Environmental Condition of Property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

A restriction is required in the deed to provide for appropriate restrictions related to ACM present on the property.[56]

Polychlorinated Biphenyls

The Department of Defense's policy for polychlorinated biphenyls (PCBs) is based on the Toxic Substances Control Act (TSCA) regulations located in Title 40 CFR Part 761. PCBs are also regulated in California by DTSC under Title 22 CCR Section 66261.24. The Navy conducted a records search and visual inspection of all remaining oil-filled electrical equipment to confirm and update the bases oil-filled electrical equipment inventory database. The inspection and inventory update included oil-filled equipment associated with electrical power distribution including transformers and oil-filled switches. The inventory did not include miscellaneous equipment, such as fluorescent lighting ballasts and capacitors.

The inventory also describes response actions performed by the Navy to remove PCB-containing electrical equipment that contain PCBs at concentrations greater than or equal to 5 ppm that were disposed of as a non-RCRA California hazardous waste and to address PCB equipment that had been vandalized.

In January 2015, the Navy sampled the PCB content of oil at all remaining transformers in the Inland Area where PCB analysis documentation was not found in the Navy's records. Additional off-line, pad-mounted (ground level) transformers and other oil-filled equipment (switches) that are no longer needed were drained to prevent potential spills from vandalism. Drained equipment was left in place (marked "drained."). Oil drained from the equipment was collected and transported off site for proper disposal. There is currently no equipment in the Inland Area that contains PCBs at concentration greater than 50 milligrams per kilogram (mg/kg) PCB in oil, which is the limit for equipment classified as non-PCB equipment under the Toxic Substances Control Act.[57]

Fluorescent light ballasts and capacitors in fixtures made before 1979 may contain sealed PCB-containing components. A comprehensive survey at former CNWS for PCB-containing fluorescent light ballasts or capacitors has not been conducted; however, it is assumed that buildings, structures, and facilities constructed before 1979 have PCBs in the ballasts and capacitors of older light fixtures. The deed will contain a notice as to the potential presence of PCB-containing ballasts and capacitors in light fixtures present in the remaining buildings within the FOST Parcel.[58]

Pesticides

According to the Initial Assessment Study, the facility maintenance group operated a pesticide shop, which was responsible for insect and rodent control at the facility, as well as vegetation control along streets, sidewalks, and buildings.[59] Subcontractors were used for large-scale vegetation control along

[56] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[57] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[58] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[59] Ecology and Environment, Inc., 1983, Initial Assessment Study of Naval Weapons Station Concord, California.

roadsides and pastureland. When the Initial Assessment Study was written in 1983, the following pesticides were used: Krovar 1 (weed control), Roundup (roadside weed control), Dursban and Ficam (insect control), methyl bromide (poison bait for ground squirrels) and aminotiazole and 4-(2,4-dichlorophenoxy)butyric acid to control broadleaf vegetation.

In 1997, the Navy developed a pest management plan for the former CNWS.[60] The pest management plan used an integrated pest management program that emphasized the use of cultural, biological, physical, educational, and mechanical methods of pest control and limited the use of chemical pesticides. The Navy used several different insecticides, rodenticides, and herbicides to control pest populations in areas and times where pesticide use was necessary.

There are no records that would indicate that waste materials containing pesticides have been disposed on lands contained in the FOST parcel. If pesticides are determined to be associated with Navy activities and require further evaluation, the CERCLA Covenant as described in Section 7.0 of the FOST is applicable to protect human health and the environment. The transfer documents provide notification that registered pesticides have been applied to the property, may continue to be present there, and that where a pesticide was applied, the pesticide was applied in accordance with its intended purpose and consistent with applicable laws and regulations.[61]

Munitions and Explosives of Concern

There are no restrictions or conditions imposed for the FOST parcel related to munitions and explosives. The FOST indicates that there is a remote possibility of finding incidental munitions based on the installation's past use as a Naval Weapons Station. A general notification will be placed in the deed to notify future landowners about the installation's prior operational history as a Naval Weapons Station and what to do in the event that munitions are found.[62]

Adjacent Properties to the FOST Parcel and Project Site

The project site either completely surrounds or shares a border with eight areas that have not received regulatory agency closure in all programs and have ongoing assessments or response actions. Sites that are surrounded by project area or are on the border and have ongoing response actions associated with other environmental concerns such as the munitions response program include:

- SWMU 23/Building 87
- SWMU 25
- UST 83
- IR Site 22A, Group 2 Magazine Area

[60] U.S. Department of the Navy, 1997, Draft Pest Management Plan, Naval Weapons Station Concord.

[61] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[62] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

These sites are not expected to affect the project site since the lateral and vertical extents of contamination have been defined.

Sites that are surrounded by project area or are on the border and have ongoing response actions include:

- IR Site 42, Building 81
- UXO 0010, Eagle's Nest
- UXO 0001A, Pistol Firing Range (Former IR Site 24A)
- Red Rock Disposal Area
- UXO 0013, Rocket Practice Area
- UXO 0012, Bermed Area
- IR Site 41, IA-100 Storage Area
- Radiological Sites 2AT5 through 2AT20, 2AC62 through 2AC71, and 2AT72-2AT78

ASTs 131 and 132 were used as water storage tanks that are being retained for future reuse and are not within the FOST parcel.

The FOST indicates that the above listed sites are not likely to impact the project site because the boundaries have been conservatively established with regulatory oversight and concurrence. These boundaries were established to ensure contamination is confined within each area and has a sufficient buffer to ensure any possible migration of contamination is contained within the site boundaries. The Navy has retained the right to impose temporary explosive safety distances on the FOST parcel if needed.[63]

Nearby Sites

DTSC's EnviroStor and the RWQCB's Geotracker environmental database web sites were reviewed to evaluate whether adjacent sites could affect the FOST Parcel. The only EnviroStor or Geotracker site that has not received a NFA or is not closed is Redding Petroleum located at 2560 Bates Avenue, almost a mile northwest of the project site to the west of Port Chicago. The site is a commercial refueling station with above-ground storage tank dispenser islands, and six underground storage tanks that contain diesel or gasoline. The site is currently undergoing assessment and groundwater monitoring. Based on information provided in Geotracker, the direction of groundwater flow at the site is to the northwest, away from the project site. Based on the distance and groundwater flow direction, this facility is not expected to have impacted the project site.[64]

Airports

The project study area is located outside of the influence area of the two public use airports in the county: Buchanan Field Airport and Byron Airport. The influence area for each of the airports extends

[63] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[64] Regional Water Quality Control Board, Geotracker Online Database, http://geotracker.waterboards.ca.gov/case_summary?global_id=T0601300232, accessed on April 17, 2018.

approximately 2 to 3 miles from the airport runways. Buchanan Field Airport is located over 3 miles to the west of the project site and Byron Airport is located over 19 miles to the southeast.

Wildland Fire Hazards

Various entities evaluate potential wildfire risks and publish data and maps showing wildfire risks for locations within California. The California Department of Forestry and Fire Protection (CAL FIRE) publishes maps recommending fire hazard severity zones for every California county. The maps identify lands in California as falling within one of the following management areas: Local Responsibility Area (LRA), State Responsibility Area (SRA), and Federal Responsibility Area (FRA). The CAL FIRE map for the SRA in Contra Costa County identifies the project site as within the FRA. The CAL FIRE map for the LRA in Contra Costa County identifies the project site as not being within the Very High Fire Hazard Severity Zone. The project site is adjacent to lands to the east and north that are within the SRA and designated as being within the Moderate and High Fire Hazard Severity Zone. Please see the subsection “Hazard Zone Mapping” in Chapter 4.16, Wildfire, of this Draft EIR for more detailed information.

4.8.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact related to hazards and hazardous materials if it would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
2. 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.
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼-mile of an existing or proposed school.
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.
5. For a project located within 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, would the project result in a safety hazard or excessive noise for people residing or working in the project area.
6. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
7. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

4.8.3 IMPACT DISCUSSION

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.

The proposed project could substantially affect the environment if future building or site preparation activities on the project site involves the routine use, transport, or disposal of hazardous materials. Hazardous materials are regularly used, transported, and handled during development activities such as grading, demolition, and construction.

The proposed Regional Park would have park uses concentrated along the lower elevations, limited road and trail development in the hills and along the ridge, and trail connections that connect the Regional Park to the surrounding open spaces and communities. Within the 2,543-acre Regional Park, 86 acres (including 35 acres within Recreation/Staging Units) of the overall park space have been planned for recreational uses and park facilities. Park elements, including roads and trails, picnic areas, education and event spaces, and campsites, would be concentrated in previously disturbed areas.

Site preparation would be necessary for the development of most recreational facilities. Both paved and unpaved parking lots would require site grading and site preparation to ensure adequate drainage and compaction for vehicular staging. Similarly, grading and site preparation would be necessary at all picnic areas with parking. Minimal site grading would also be need for picnic areas without parking to ensure adequate access from adjacent trails and flat space for picnic facilities.

The demolition of Buildings IA-55, 97, and 87 and their replacement with the new multipurpose room, Diablo Center, and Caretaker's Residence, respectively, would require grading and site preparation for the new facilities and construction staging. The construction of the new archive building, the amphitheater, and the plaza near the Visitor Center would require similar treatment. It is not anticipated that new grading will be necessary for building renovations, including Buildings IA-24, 420, 93, and 94; however, there would likely be a need for site preparation for the construction staging areas and fine grading around the existing structures.

Substantial site grading may be required within the Corp Yard area to fulfill District's maintenance needs. It is anticipated that grading would likely occur within the entire area, including the native plant nursery.

Almost 80 percent of the roads and trails within the Regional Park would follow existing roads, trails, or rail lines, but some new alignments would be necessary. New segments of roads and trails would require site grading and compaction. Existing roads and areas that are proposed to be removed would require ripping, and reseeding, as well as fine grading to match the surrounding grades.

Project-related construction activities would not require or involve extensive or ongoing use of acutely hazardous materials or substances. There will be limited grading and construction requiring the transport, storage use, or disposal of some hazardous materials, such as on-site fueling or servicing of construction

equipment. These activities would be short term and subject to federal, State, and local health and safety requirements.

The types of hazardous materials associated with project operation would generally be limited to maintenance, janitorial, and repair activities, such as commercial cleansers, lubricants, paints, etc. All hazardous materials used at the Regional Park would be stored, handled, and disposed of in compliance with all federal, State, and local regulations. Any demolition and construction contractors would be required under contract to segregate, collect, and properly dispose of hazardous waste in accordance with Contra Costa County, State, and federal requirements.

Overall, existing regulations with respect to hazardous materials transportation, management, and disposal are designed to be protective of human health. Compliance with federal, State, and local regulations, and policies in the Area Plan, would minimize potential hazardous material impacts.

However, four previous base-wide ACM surveys have found ACM in the majority of buildings that were surveyed for asbestos. ACM was found in materials such as pipe insulation, sealants, mastic, floor tiles, sheet flooring, grout, cinder blocks and mortar, fire-door insulation, transite panels, drywall, gaskets, and roofing. Both friable and non-friable asbestos were reported. Utilities within the FOST Parcel were not investigated; therefore utilities within the FOST Parcel may contain ACM. Demolition of existing buildings and magazines that are not anticipated for reuse in the Regional Park would require removal of all existing materials, ripping, and reseeding, as well as grading to match the surrounding grades.

A restriction is being required in the deed that prohibits occupancy and use of buildings, structures, or utilities, or portions thereof, containing known asbestos hazards before abatement of such hazards. The restriction indicates that, in connection with its use and occupancy of the FOST Parcel – including, but not limited to, demolition of buildings, structures, or utilities containing asbestos or ACM – the District will comply with all applicable federal, State, and local laws relating to asbestos and ACM.

An additional deed restriction presumes that LBP is present in all non-residential buildings, structures, facilities and in surrounding soil within the FOST Parcel that were built prior to 1978. The District may be required by DTSC or other regulatory agency to evaluate the soil adjacent to these buildings, structures, or facilities for soil-lead hazards resulting from LBP, and to abate any such hazards that may be present, after demolition and prior to construction on any building, structures, or facilities. The FOST also includes required deed notices related to PCBs, pesticides, and Munitions and Explosives of Concern. With these deed restrictions in place, this impact is considered to be *less than significant*.

Significance without Mitigation: *Less than significant.*

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.**

Construction and site preparation activities associated with implementation of the proposed Plan could increase hazardous materials use and the associated risk of accident conditions involving the release of

hazardous materials within the project area. The FOST outlines notices and restrictions that are designed to ensure that post-transfer use of the project site will be consistent with the protection of human health. Restrictions include the handling of ACM, electrical equipment, lead-based paint, pesticides, petroleum, and munitions and explosives.[65]

In addition, construction activities would not involve a significant amount of hazardous materials, and the use of hazardous materials would be temporary. Therefore, there is not a reasonably foreseeable risk of upset or accidents that would release hazardous materials once the Regional Park is in operation. This impact would be *less than significant*.

Significance without Mitigation: *Less than significant*.

HAZ-3 The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼-mile of an existing or proposed school.

Redevelopment activities such as site grading and remediation activities could generate wind-blown fugitive dust containing hazardous substances. Ayers Elementary School, located at 5120 Myrtle Drive in Concord, is located to the west of the project site and is the only school within ¼-mile of the project site.

Construction activities would require the use of heavy equipment and would result in greater emissions than project operation. However, as detailed in Chapter 4.2, Air Quality, construction activities associated with the proposed project would not expose off-site sensitive receptors to substantial concentrations of air pollutants. Therefore, this impact would be *less than significant*.

Significance without Mitigation: *Less than significant.*

HAZ-4 The project would not result in a significant impact associated with location on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

The entire former CNWS site, which includes the project site, was added to the NPL in 1994. The NPL does not describe releases in precise geographical terms, which is consistent with the limited purpose of the NPL as a mere identification of releases. Therefore, listing on the NPL, especially for large sites like the former CNWS, does not mean that the entire property has known or threatened releases of hazardous substances.

The FOST determined that the project site is suitable to transfer under the Public Benefit Conveyance and is environmentally suitable for transfer by deed. Sites or areas not suitable for transfer have been excluded from the footprint of the FOST Parcel. These excluded areas are within the boundaries of the

[65] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

proposed Plan in order to plan comprehensively for the future of the Regional Park site. However, these areas would not be conveyed to the District until or unless the Navy determines they are environmentally suitable for transfer.

The site has restrictions as part of the conveyances to ensure that post-transfer use of the FOST Parcel is consistent with protection of human health and the environment. Required deed notices are discussed under Impacts HAZ-1 and HAZ-2 above and are associated with the transfer related to ACM, lead-based paint, PCBs, pesticides and Munitions and Explosives of Concern.[66] The US EPA, DTSC, and Water Board have all concurred that the site is suitable for transfer under the Public Benefit Conveyance. Therefore, although the project site is listed as a hazardous materials site, hazards to the public or the environment would be *less than significant*.

Significance without Mitigation: *Less than significant.*

HAZ-5	**The project is not located within an airport land use plan or within 2 miles of a public airport or public use airport and therefore would not result in a safety hazard or excessive noise for people residing or working in the project area.**

The site is located over 3 miles from the closest airport outside of the safety zones for the airfield. Project development would not cause hazards related to aircraft safety hazards or noise. Therefore, there would be *no impact*.

Significance without Mitigation: *No impact.*

HAZ-6	**The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.**

The development of the project is designed and would be implemented so as not to interfere with or impair the implementation of an adopted emergency response or evacuation plan. Emergency response issues are addressed by the Contra Costa County Fire Protection District (CCCFPD), which requires adequate access roads and building markings to facilitate emergency response.[67]

Approximately 5 miles of existing roads would be converted to maintenance roads for operations, maintenance, and emergency services. These roads would provide vehicular access to higher elevations within the Regional Park. The approximately 5 miles of roads would be constructed to accommodate emergency response vehicles. In addition to having dedicated space within the Corporation Yard for park patrol and wildfire response teams, the Regional Park would ensure adequate access and support

[66] U.S. Department of the Navy, 2017, Base Realignment and Closure, Finding of Suitability to Transfer for Former Naval Weapons Station Seal Beach Detachment Concord.

[67] City of Concord, 2010, Concord Community Reuse Plan Final Environmental Impact Report.

infrastructure for emergency response teams. Emergency responders with four-wheel drive capacity would be able to utilize the roads and trails in the Regional Park. Additionally, the overlooks are located in flat areas that could accommodate emergency landing of helicopters if needed. These points are spaced along the ridge, providing emergency responders access to much of the higher elevations of the park within a short distance. Therefore, there would be a *less-than-significant* impact to emergency response or evacuation.

Significance without Mitigation: *Less than significant.*

HAZ-7	**The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.**

The proposed Plan would maintain the project site as an open space and recreational facility and would not add urban or residential development to a wildland area. Future structures built as part of the proposed Regional Park would be required to comply with the City of Concord's Fire Code (CMC Chapter 15.65) and Building Code (CMC Chapter 15.10), including installation of sprinklers, proper protection systems such as fire extinguishing systems and alarms, fire hydrants, water fire flow requirements, and access points to accommodate fire equipment. Compliance with the CMC would also be required to ensure that CCCFPD standards provide the minimum access and water supplies would be met for any future development on the project site.

Grazing is currently used at the project site to control vegetation in the grassland areas and to reduce fire hazards. The proposed Plan anticipates that grazing would continue after opening Concord Hills Regional Park for vegetation management and as a fire prevention strategy.

The proposed Regional Plan would not include any campfires. Cooking grills would be provided at small picnic areas, and gas stoves would be allowed in designated day-use picnic areas and campgrounds. Based on the District's existing fire danger restrictions, cooking grills would not be permitted to be used during periods of "Extreme" fire danger.

The proposed project would also include several provisions for wildland fire prevention and response. Management Prescription ACCESS 19 states that the District would "Provide an adequate level of fire and visitor safety protection." Management Prescription ACCESS 21 calls for the District to "Reduce the risk of wildfire by implementing fuels modification projects to mitigate hazards to nearby exposures, following best management practices and procedures outlined in EBRPD's Fire Danger Operating Plan and Procedures (2012) and Wildfire Hazard Reduction and Resource Management Plan (2010)." In addition, the proposed project would maintain the existing water storage tanks on the site for use for fire suppression in the event of wildfire. These tanks would be retained and upgraded as needed to meet or exceed minimum fire department recommendations. Finally, the Corporation Yard would include dedicated space for park patrol and wildfire response teams.

Additionally, Policy SHN-3.1 within the Concord Reuse Project Area Plan requires fire breaks, fire-resistant landscaping, adequate vegetation clearances around structures, and other vegetation management

measures along the urban-open space interface to minimize the risk of wildfire on the Concord Reuse Project site. Therefore, impacts would be *less than significant*.[68]

Significance without Mitigation: *Less than significant.*

4.8.4 CUMULATIVE IMPACTS

HAZ-8 The project would not contribute to significant cumulative hazards and hazardous materials impacts.

The assessment of potential cumulative impacts with regard to hazards and hazardous materials refers to the potential for on-site and off-site hazardous materials to have a cumulative effect on the health and well-being of project occupants. The City's Final EIR Addendum assessed impact differences between the Final EIR and Concord Reuse Project Area Plan.[69] The hazardous materials study area considered for cumulative impacts consists of the area that could be affected by project activities, and the areas affected by other off-site projects where activities could directly or indirectly affect the presence or dispersion of hazardous materials onto the project site. In general, only projects occurring adjacent or very close to the project site are considered to potentially have a cumulative impact.

A number of the areas adjacent to the project site have been remediated and released for redevelopment by the Department of the Navy in concurrence with the US EPA, DTSC and Water Board. The BRAC closure process has addressed and remediated the potential instances between the site and adjacent areas where possible impacts were identified. In addition, the contribution of hazardous materials use and hazardous waste disposal with implementation of the project is minimal.

Although the project site is listed as a hazardous materials site, the FOST determined that the project site is suitable to transfer under the Public Benefit Conveyance and is environmentally suitable for transfer by deed. Compliance with existing regulations and deed restrictions would ensure that the proposed project would not contribute to cumulative impacts. Therefore, this impact would be *less than significant*.

Significance without Mitigation: *Less than significant.*

[68] City of Concord, 2010, Concord Community Reuse Plan Final Environmental Impact Report.

[69] City of Concord, 2012, Final Environmental Impact Report Addendum and Initial Study of Environmental Significance for the Concord Reuse Project Area Plan.

4.9 HYDROLOGY AND WATER QUALITY

This chapter describes the regulatory framework and existing conditions on the project site related to hydrology and water quality, and the potential impacts of the project on hydrology and water quality.

The Contra Costa County Flood Control and Water Conservation District, in a letter to the Park District dated August 2, 2017, sent in response to the Notice of Preparation of this Draft EIR, expresses concerns about potential impacts to Mt. Diablo Creek, flooding and new impervious surface areas which might result from buildout of the Plan. The Impact Discussion, below, addresses the comments.

4.9.1 ENVIRONMENTAL SETTING

4.9.1.1 REGULATORY FRAMEWORK

Federal Regulations

Clean Water Act

Under the Clean Water Act (CWA) of 1977, the United States Environmental Protection Agency (US EPA) seeks to restore and maintain the chemical, physical, and biological integrity of the nation's waters by implementing water quality regulations. The National Pollutant Discharge Elimination System (NPDES) permit program under Section 402(p) of the CWA controls water pollution by regulating sources that discharge pollutants into waters of the United States. The US EPA has delegated authority for issuing NPDES permits in California to the California State Water Resources Control Board (SWRCB), which has nine regional boards. The San Francisco Bay Regional Water Quality Control Board (RWQCB) regulates water quality in the project area.

Executive Order 11988 and National Flood Insurance Program

Under Executive Order 11988, the Federal Emergency Management Agency (FEMA) is responsible for management of floodplain areas defined as the lowland and relatively flat areas adjoining inland and coastal waters subject to a 1 percent or greater chance of flooding in any given year. Also, FEMA administers the National Flood Insurance Program, which requires that local governments covered by federal flood insurance enforce a floodplain management ordinance that specifies minimum requirements for any construction within the 100-year flood zone (1 percent chance of occurring in a given year). FEMA prepares Flood Insurance Rate Maps (FIRMs) that indicate areas prone to flooding. The City of Concord is responsible for issuing permits within designated flood zones in the project area.

State Regulations

Porter-Cologne Water Quality Control Act

The passage of the Porter-Cologne Water Quality Control Act in 1969, with later amendments (collectively referred to here as Porter-Cologne), implemented California's requirements under the federal CWA and designated the SWRCB to have the ultimate authority over California water rights and water quality policy.

Porter-Cologne also established nine RWQCBs, which are responsible for planning, permitting, and enforcement of water rights and water quality standards. The Porter-Cologne Act was incorporated into California Statutes as California Water Code Sections 13300 to 13999 and Title 23 of the California Administrative Code. Porter-Cologne provides the basis for water quality regulation within California and defines water quality objectives as the limits or levels of water constituents that are established for reasonable protection of beneficial uses. The Porter-Cologne Act allows the California SWRCB to adopt statewide water quality control plans or "Basin Plans," which serve as the legal, technical, and programmatic basis of water quality regulation for a region. The Act also authorizes the NPDES program under the CWA, which establishes effluent limitations and water quality requirements for discharges to waters of the state.

Anti-Degradation Policy

The SWRCB Anti-Degradation Policy, formally known as the Statement of Policy with Respect to Maintaining High Quality Water in California (SWRCB Resolution No. 68-16), restricts degradation of surface and ground waters. In particular, this policy protects water bodies where existing quality is higher than necessary for the protection of beneficial uses.

Under the Anti-Degradation Policy, any actions that can adversely affect water quality in all surface and ground waters must: (1) be consistent with maximum benefit to the people of California; (2) not unreasonably affect present and anticipated beneficial use of the water; and (3) not result in water quality less than that prescribed in water quality plans and policies. Furthermore, any actions that can adversely affect surface waters are also subject to the federal Anti-Degradation Policy (Code of Federal Regulations Title 40 Section 131.12) developed under the CWA. Discharges from the proposed project that could affect surface water quality would be required to comply with the Anti-Degradation Policy, which is included as part of the NPDES permit requirements for point discharges.

NPDES Construction General Permit

Construction associated with the proposed project would disturb more than one acre of land surface affecting the quality of stormwater discharges into waters of the United States The proposed project would therefore be subject to the *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ, NPDES No. CAS000002) (Construction General Permit).[1] The Construction General Permit regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects.

The Construction General Permit requires that construction sites be assigned a Risk Level of 1 (low), 2 (medium), or 3 (high), based both on the sediment transport risk at the site and the receiving waters

[1] California State Water Resources Control Board (SWRCB), 2009, NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ, NPDES No. CAS000002).

risk during periods of soil exposure (e.g., grading and site stabilization). The sediment risk level reflects the relative amount of sediment that could potentially be discharged to receiving water bodies and is based on the nature of the construction activities and the location of the site relative to receiving water bodies. The receiving waters risk level reflects the risk to the receiving waters from the sediment discharge. Depending on the risk level, the construction projects could be subject to the following requirements:

- Effluent standards.
- Good site management "housekeeping."
- Non-stormwater management.
- Erosion and sediment controls.
- Run-on and runoff controls.
- Inspection, maintenance, and repair.
- Monitoring and reporting requirements.

The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific Best Management Practices (BMPs) designed to prevent pollutants from contacting stormwater and keep all products of erosion from moving off-site into receiving waters. The SWPPP BMPs are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP is required to contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

In addition to stormwater discharges, the Construction General Permit also authorizes other non-stormwater discharges including irrigation of vegetative erosion control measures, water to control dust, uncontaminated ground water from dewatering, and other discharges not subject to a separate general NPDES permit adopted by the Regional Water Board. The discharge of non-storm water is authorized under the following conditions:

- The discharge does not cause or contribute to a violation of any water quality standard.
- The discharge does not violate any other provision of the General Permit.
- The discharge is not prohibited by the applicable Basin Plan.
- The discharger has included and implemented specific BMPs required by the General Permit to prevent or reduce the contact of the non-storm water discharge with construction materials or equipment.
- The discharge does not contain toxic constituents in toxic amounts or (other) significant quantities of pollutants.
- The discharge is monitored and meets the applicable Numeric Action Levels (NALs).[2]
- The discharger reports the sampling information in the Annual Report.

[2] Numeric Action Levels describe the values of certain water quality parameters (such as pH and turbidity) at which specific actions must be taken by a water discharger to protect water quality. NALs are identified in the Construction General Permit.

NPDES Municipal Regional Stormwater Permit

In 2009, to control pollution from urban runoff, the RWQCB issued Municipal Regional Stormwater NPDES Permit (MRP; NPDES Permit Order R2-2015-0049, NPDES Permit No. CAS612008, as revised). The MRP governs stormwater discharges from municipalities and local agencies in Alameda, Contra Costa, San Mateo, and Santa Clara counties, and the cities of Fairfield, Suisun City, and Vallejo. The MRP prohibits the discharge of non-stormwater (materials other than stormwater) into storm drain systems and watercourses. Stormwater discharges are also restricted to those that would not adversely affect state waters or contribute to a violation of water quality standards for receiving waters (such as the San Francisco Bay). Some provisions require regional action and collaboration, but others relate to specific municipal activities over which the municipalities have individual responsibility and control. The MRP includes provisions applicable to new development and redevelopment (Provision C.3), which require permittees to use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects.

MRP Provision C.3 mandates the use of Low Impact Development (LID) for stormwater treatment, with narrow exceptions. LID aims to mimic a site's pre-development hydrology by minimizing imperviousness and then by detaining, infiltrating, and filtering runoff in landscape-based features—principally bioretention facilities. The City of Concord adopted a Stormwater Management and Discharge Control Ordinance to comply with the requirements of this permit, discussed further below.

Contra Costa County developed guidance for implementing the MRP requirements in its *Contra Costa Clean Water Program Stormwater C.3 Guidebook.* The guidance states that for a project that would alter more than 50 percent of the impervious surface of a previously developed site, and the existing development was not subject to stormwater treatment measures, then the entire project must be addressed by stormwater treatment measures. However, if the project would result in alteration of less than 50 percent of the impervious surface of a previously developed site, and the existing development was not subject to stormwater treatment measures, then only the new or replaced impervious surface must be addressed by stormwater treatment measures. The selected treatment measures must be included in a Stormwater Control Plan developed for the project. The Stormwater Control Plan must also describe anticipated maintenance requirements of all stormwater facilities constructed.

District Regulations

East Bay Regional Park District Master Plan (2013)

The East Bay Regional Park District Master Plan, adopted July 16, 2013, provides policy direction for resource stewardship and development of parks within the jurisdiction of the District. The Master Plan also includes a vision, a mission statement, as well as policies and goals protecting water quality and hydrology resources in the Natural and Resources Management section.

- NRM11: Park water resources will be used for beneficial purposes. Water quality will be monitored to comply with established standards. The District will participate in cooperative efforts to plan comprehensive watershed management and will adopt "best management practice" guidelines for

District land use activities to minimize potential storm water pollution. The District will monitor land use planning and development activities by other agencies and cities to avoid potential adverse impacts to parkland from pollutants generated by off-site or upstream sources.

- NRM12: The District will manage riparian and other wetland environments and their buffer zones to preserve and enhance the natural and beneficial values of these important resources and to prevent the destruction, loss or degradation of habitat. The District will participate in the preservation, restoration and management of riparian and wetland areas of regional significance, and will not initiate any action that could result in a net decrease in park wetlands. The District will encourage public access, the Bay Delta shoreline, but will control access to riparian and wetland areas, when necessary, to protect natural resources.
- NRM12b: The District will engage in watershed management planning and practices that will address the shifts in habitat ranges caused by climate change through the preservation and enhancement of streams and wetland areas.

Local Regulations

City of Concord General Plan

Although not applicable to the District's use and management of its project site, the City of Concord's General Plan[3] includes the following goals, principles, and policies regarding surface water, groundwater, water quality, and flooding:

- Goal POS-3: Well-Planned Natural Resource Conservation.
- Principle POS-3.1: Preserve and Protect Water Quality.
  - Policy POS-3.1.1: Enhance and maintain the natural values of creeks and major drainage ways.
  - Policy POS-3.1.3: Requires adequate building setbacks for development adjacent to creek banks and major drainage ways to protect neighboring properties from erosion and flooding.
  - Policy POS-3.1.6: To the extent practical, preserve creeks in a natural condition while providing for the need to convey storm water.
- Goal S-4: Flood Risk Reduction.
- Principle S-4.1: Protect the community from risks to lives and property posed by flooding and stormwater runoff.
  - Policy S-4.1.1: Manage development to ensure compliance with the City's Flood Management Ordinance and the City's Stormwater Management and Discharge Control Ordinance.
  - Policy: S-4.1.2: Establish engineering design standards for constructing a storm drainage system to protect against loss of life and property and minimize risks of flooding. This system should include

[3] City of Concord, 2007, Concord 2030 General Plan, updated July 2012, http://www.cityofconcord.org/page.asp?pid=6100, accessed on May 4, 2015.

a combination of constructed facilities and natural creeks which are managed to reduce flood hazards.

- Policy S-4.1.3: Coordinate storm drainage management with appropriate agencies, including the County Flood Control and Water Conservation District, Regional Water Quality Control Board, Army Corps of Engineers, Department of Fish & Game and with the Contra Costa Water District, in the vicinity of the Contra Costa Canal.
- Principle S-4.1.4: Design storm drainage facilities to meet the Contra Costa County Flood Control and Water Conservation District standards and ensure adequate and safe flow to minimize flooding.

- Goal PF-1: Availability of Adequate Public Utilities.
- Principles PF-3.1: Protect the Community from Adverse Impacts of Water Runoff.
  - Policy PF-1.3.1: Require new development to provide any needed storm drains that are not part of the City's master storm drain system and to incorporate features into site improvement plans to minimize surface runoff.

Concord Reuse Project Area Plan

The Concord Reuse Project Area Plan,[4] which is incorporated by reference in the City of Concord General Plan, includes the following principles and policies regarding surface water, groundwater, water quality, and flooding.

- Principle C-2: Protect Ridgelines and visible hillsides in the CRP [Concord Reuse Project] area.
  - Policy C-2.2: Slopes over 30 percent. Limit development on slopes that are 30 percent or greater. Where such slopes occur within the areas shown for urban uses on the Area Plan Diagram, they should generally be set aside as public or private open space in order to minimize the need for grading and earth movement. In the areas closest to the North Concord / Martinez BART station, some development on steeper slopes may be acceptable in order to maximize transit-oriented development opportunities.
  - Policy C-2.3: Enhancing Natural Drainage Patterns. Preserve natural drainage patterns and watersheds on the site, and enhance the beneficial uses associated with Mount Diablo Creek and other drainage features.
  - Policy C-2.5: Grading and Earth Movement. Conduct detailed site planning that limits the need for excessive grading. Where grading does occur, promptly revegetate disturbed areas to avoid erosion and minimize soil loss.
- Principles C-3: Preserve, protect, and enhance hydrologic features in the CRP area.
  - Policy C-3.1: Coordination with Resource Agencies. Work with regional, state and federal resource agencies with permitting authority relating to hydrology and creek habitat to obtain necessary

[4] City of Concord, 2012, Concord Reuse Project Area Plan, Book Three: Technical Chapters, http://www.concordreuseproject.org/pdf/CRPAreaPlan_book3.pdf, accessed on March 16, 2015.

permits as part of the sitewide process discussed in C-1.2 and to establish requirements for restoration and flood control activities.

Permits are expected to include requirements for a buffer area along Mount Diablo Creek and specific mitigation requirements that would be associated with any loss of riparian and aquatic habitat. In the event of conflicts between the conditions of such permits and policies included in the General Plan, permit provisions shall govern.

- Policy C-3.2: Creek Restoration and Flood Control Plan for Mount Diablo Creek. Coordinate with regional, state and federal resource agencies as part of the site-wide permitting process to develop detailed plans for the restoration of Mount Diablo Creek, accommodating the need for flood control while also restoring aquatic conditions within the creek channel and riparian habitat along the banks and, as appropriate, accommodating passive recreational uses.
- Policy C-3.3: Balancing Flood Control and Creek Restoration. Consistent with applicable regulations and permits, require future development to incorporate creek restoration and flood control measures along Mount Diablo Creek that increase flow capacity within the channel, increase the extent of riparian vegetation, enhance habitat value, and improve passage for aquatic species. Flood control projects should be viewed as an opportunity to improve habitat and restore natural features.
- Policy C-3.4: Bridge Construction. Design and construct bridges across Mount Diablo Creek in a way that minimizes impacts on stream flow, riparian vegetation, aquatic species, and stream ecology. Place fill or structures outside of the channel to the maximum extent feasible, and use native soil and other natural materials when disturbances are necessary.
- Policy C-3.5: Avoidance and Mitigation of Habitat Impacts. Avoid adverse impacts to riparian and aquatic habitat through site planning and construction practices. Any loss of habitat shall be mitigated consistent with permit requirements and the measures specified in the CCRP FEIR [Concord Community Reuse Plan Final EIR] (January 2010).
- Policy C-3.6: Restoration of Smaller Streams and Tributaries. Subject to provisions of applicable permits from resource agencies, explore opportunities to restore smaller streams and tributaries on the site, through methods including daylighting buried culverts, restoring the natural drainage course near the former airfield that conveys perennial flows, and enhancing Willow Pass Creek.
- Policy C-3.7: Contra Costa and Clayton Canals. Retain both the Contra Costa and Clayton canals for purposes of integration with recreation and open space connectivity, unless evaluation of cost and off-site impacts lead to a determination that undergrounding (Contra Costa canal) or abandonment (Clayton canal) are superior options.

- Principle C-4: Preserve and Protect Water Quality in the CRP area.
  - Policy C-4.2: Construction BMPS. Consistent with requirements and programs of the RWQCB, implement best management practices for water quality during construction to minimize the transport of sediment and other harmful materials into drainage ways, creeks, and downstream areas.

In addition to containing sediment and stabilizing soils during construction, best management practices should address the potential for spills, reduce the effects of heavy equipment and vehicles, and minimize the impact of urban runoff during post-construction conditions.

- Policy C-4.3: Stormwater Pollution Prevention Plan. Prior to approving any development, prepare a Stormwater Pollution Prevention Plan as required by the RWQCB.

  The Plan can be initiated by the City at a general level of detail, with additional specificity prepared by developers for specific sites. The Stormwater Pollution Prevention Plan will be updated as needed to reflect the evolution of stormwater Best Management Practices. The Plan can be prepared for the site in portions or as a whole. It will include measures to minimize and control potential pollution sources, including limits on impervious surface coverage within future development districts, requirements for replanting of disturbed areas, erosion control strategies, limits on grading and earth moving, containment plans for hazardous material spills, and other programs which prevent contaminated runoff.

- Policy C-4.4: Interagency Coordination for Water Quality. Coordinate water quality improvements with appropriate agencies, including the County Flood Control and Water Conservation District, RWQCB, Army Corps of Engineers, California Department of Fish and Game (CDFG), and the CCWD.

City of Concord Municipal Code

Chapter 18 – Development Code

The City of Concord Municipal Code Chapter 18 (also called the Development Code) includes ordinances designed to protect surface water quality. Chapter 18.305, Creek and Riparian Habitat Protection, provides standards for the protection, maintenance, enhancement, and restoration of creeks, streams, and waterways in a manner that preserves their ecological integrity, function, and value. Under the code—unless the City Engineer waives it due to a determination that there would be no significant impact on a waterway or that sufficient information about the waterway already exists—a site-specific hydrologic study is required for improvements or proposed development on any site crossed by a watercourse as defined by the City or the United States Geological Survey (USGS).

Chapter 16 – Stormwater Management and Discharge Control

The intent of this chapter of the City's Municipal Code is to protect and enhance the water quality in the city's watercourses pursuant to, and consistent with, the Porter-Cologne Water Quality Control Act and the federal CWA. Chapter 16 achieves this intent by minimizing non-stormwater discharges, minimizing increases in nonpoint source pollution caused by stormwater runoff, and reducing stormwater run-off rates and volumes and nonpoint source pollution whenever possible through stormwater management controls.

Every application for a development project – including, but not limited to, a rezoning, tentative map, parcel map, conditional use permit, variance, site development permit, design review, or building permit – that is subject to the development runoff requirements in the City's NPDES Municipal Regional permit shall be accompanied by a Stormwater Control Plan that meets the criteria in the most recent version of

the *Contra Costa Clean Water Program Stormwater C. 3. Guidebook*. New development and redevelopment projects include appropriate source control, site design, and stormwater treatment measures to address stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. This goal is to be accomplished primarily through the implementation of LID techniques.

4.9.1.2 EXISTING CONDITIONS

Climate and Topography

The project site is located in eastern Concord, along the Los Medanos Hills. Elevations at the site range from about 100 feet above sea level in the northwestern portion of the site to 1,000 feet above sea level in the Los Medanos Hills. The site experiences a Mediterranean climate, characterized by warm dry summers and mild wet winters. Temperatures rarely drop below freezing and on average approximately 86 percent of the rainfall occurs between November and April.[5] On average, the project vicinity receives approximately 17 inches of precipitation per year.[6]

Regional and Site Surface Hydrology

The primary hydrologic features on the project site include the Clayton Canal, Rattlesnake Creek, a short portion of the Contra Costa Canal, and various small ponds. Surface water that does not infiltrate the site soils drains to Mount Diablo Creek, which is located west of the project site and generally parallels the western border of the project site from the intersection with Bailey Road in the south to the former N Street in the north. An overview of hydrologic features in the project vicinity is presented in Figure 4.9-1.

Watershed Setting

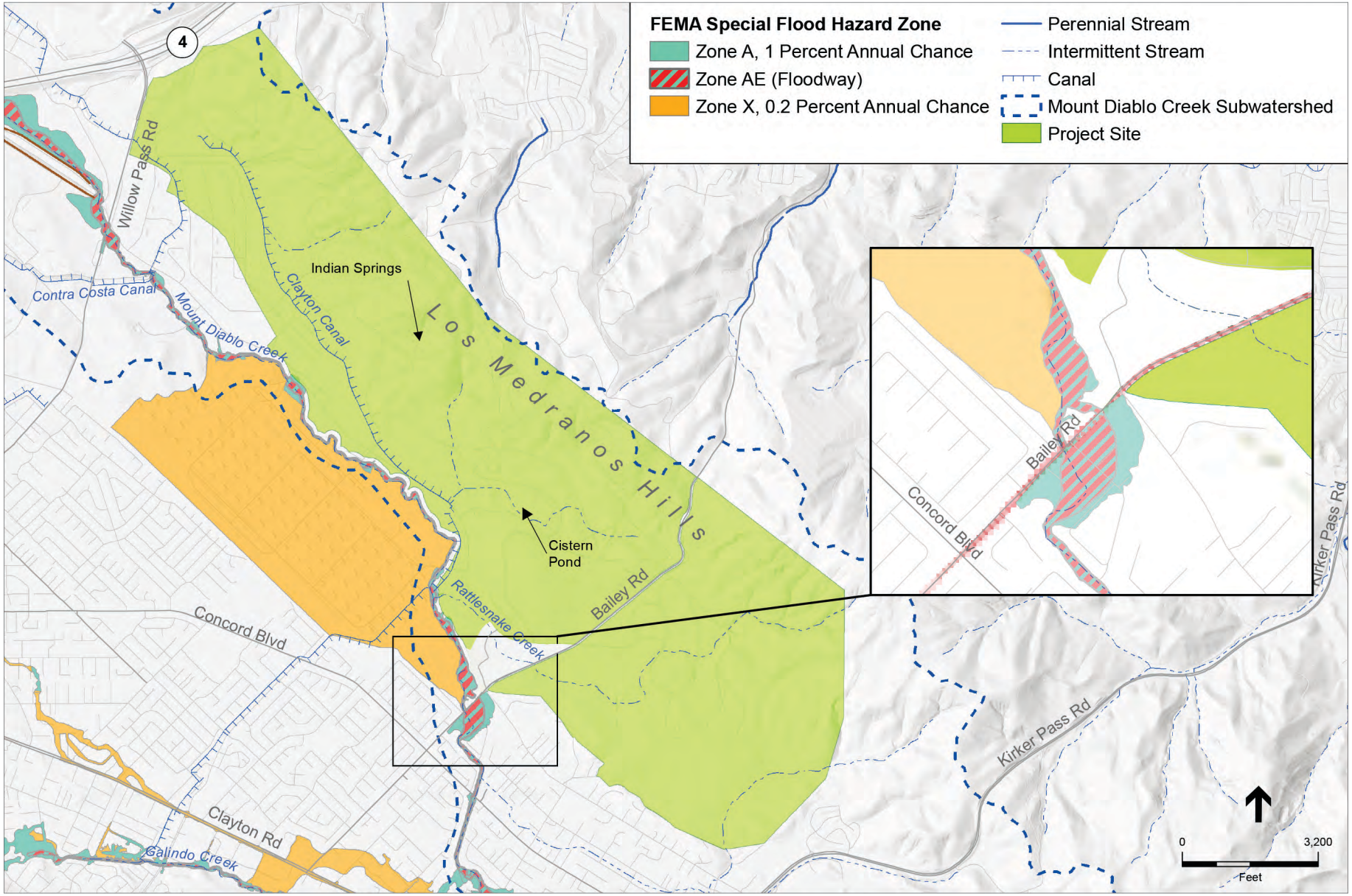
The project site is within the 23,800-acre Mount Diablo Creek Watershed.[7] The headwaters of Mount Diablo Creek watershed are located on the northern face of Mount Diablo, and from there and the hills northeast of Mount Diablo water flows north-northwest through the watershed to wetlands on the south border of Suisun Bay. The watershed includes unincorporated areas of Contra Costa County, Clayton, and portions of Concord.[8] Primary creeks within the watershed include Mount Diablo Creek, Mitchell Creek, and Donner Creek. The project site is crossed by tributaries to Mount Diablo Creek, although the site itself does not contain any of the three primary creeks. Over half of the watershed area (54 percent), mostly located upstream of the project site, is land managed as open space or agriculture. Non-agricultural conserved lands make up 22 percent of the watershed area, and 21 percent of the area is developed

[5] Western Regional Climate Center, 2015, 1971-2000 Monthly Climate Summary for Port Chicago Naval D, California (047070), http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7070, accessed on March 10, 2015.

[6] Western Regional Climate Center, 2015, 1971-2000 Monthly Climate Summary for Port Chicago Naval D, California (047070), http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7070, accessed on March 10, 2015.

[7] Contra Costa Resource Conservation District, 2006, Mount Diablo Creek Watershed Assessment.

[8] Natural Heritage Institute, 2006, Mount Diablo Creek Watershed Inventory Final Report.



Source: ESA, 2018.

Figure 4.9-1
Watershed Features in Project Vicinity

land.[9] The remaining areas of the watershed are golf courses or parks. Stream flows throughout the watershed generally mirror the local precipitation patterns and most stream reaches in the watershed are ephemeral.[10]

Historic Hydromodification of Mount Diablo Creek

While Mount Diablo Creek does not cross the project site, the creek is the nearest source of potential flooding, and historic modifications to the creek have affected surface hydrology of the project site. The primary Mount Diablo Creek channel was rerouted from a larger westerly channel to the existing channel in the late 19th century.[11] As the area developed, the altered land cover in the watershed reduced the amount of precipitation infiltrating the landscape while also limiting the amount of sediment entering the stream. Consequentially, higher volumes of runoff reached Mount Diablo Creek channel more rapidly, initiating a cycle of erosion and channel entrenchment. As the channel has eroded deeper into the landscape, progressively larger flood flows are confined to the channel instead of spilling out onto the surrounding floodplain. This process leads to further erosion, deepening the channel relative to the surrounding topography and undermining the channel banks.[12] In addition to erosion of the channel bed, the incision has driven development of steep, unstable banks that are actively eroding in many locations along the reach of Mount Diablo Creek adjacent to the project site.[13] As a result, Mount Diablo Creek is deeply incised, in places as much as 25 feet below the surrounding topography.[14] Development of the environs surrounding the project site has also introduced culverted road crossings, channelization, bank revetments, and other direct alterations to the creek channel.[15]

Stream Channels

Eastern Tributaries to Mount Diablo Creek

Several ephemeral tributaries drain the Los Medanos Hills along the eastern portion of the project site. Except for Rattlesnake Creek, all of these small steep tributaries are unnamed. All of the tributaries only flow during and shortly after storms.[16] Due to a combination of site geology and the resulting sediment load from the Los Medanos Hills, the water from these tributaries generally does not reach the channel of Mount Diablo Creek, instead flowing into the subsurface through coarse alluvial deposits at the base of

[9] Contra Costa Resource Conservation District, 2006, Mount Diablo Creek Watershed Assessment.

[10] Natural Heritage Institute, 2006, Mount Diablo Creek Watershed Inventory Final Report.

[11] ESA PWA, 2011, Concord Community Reuse Project: A Conceptual Plan for Restoration and Flood Management. Prepared for the City of Concord.

[12] ESA PWA, 2011, Concord Community Reuse Project: A Conceptual Plan for Restoration and Flood Management. Prepared for the City of Concord.

[13] ESA PWA, 2011, Concord Community Reuse Project: A Conceptual Plan for Restoration and Flood Management. Prepared for the City of Concord.

[14] ESA PWA, 2011, Concord Community Reuse Project: A Conceptual Plan for Restoration and Flood Management. Prepared for the City of Concord.

[15] City of Concord, 2009. Concord Community Reuse Project Draft Revised Environmental Impact Report.

[16] ESA PWA, 2011, Concord Community Reuse Project: A Conceptual Plan for Restoration and Flood Management. Prepared for the City of Concord.

the Los Medanos Hills.[17,18] Grading performed by the United States Department of the Navy (Navy) at the site also disconnected local runoff from the Mount Diablo Creek channel by altering the natural topography of the project site.[19]

Willow Creek Drainage

A small portion of the eastern boundary of the site drains east to the Willow Creek watershed, towards the City of Pittsburg. There are no channels in this portion of the project site along the northeastern face of Los Medanos Hills, and drainage is limited to sheet flow only during high-intensity storms.[20]

Canals

The two canals that cross the project site, the Clayton Canal and the Contra Costa Canal, are owned by the United States Bureau of Reclamation. The Clayton Canal was built in 1949 and was used until approximately 20 years ago. The Contra Costa Canal was completed in 1948 and operates spring through fall. Neither of the canals receives significant runoff from the project site.[21]

Other Surface Water Features

Several stock ponds, watering holes, and seepage ponds are located in the uphill areas of the project site, including upper and lower Birdbath Springs, Willow Springs Pond, Indian Pestle Pond, several hilltop ponds, and other unnamed ponds.[22] Water levels in these ponds vary seasonally and are generally high in winter as a result of seasonal precipitation before gradually drying out during the summer.[23] Cistern Pond and Indian Springs are the only perennial ponds at the site.[24]

Groundwater

Groundwater is water that occurs underneath the earth's surface, in the pores and fractures in sediments and rocks. When water completely fills the void space of sediment pores or rock fractures, the pores or fractures are said to be saturated. Water that completely saturates the pore or fracture space available is typically called groundwater. The top of the zone filled with groundwater is known as the water table. Groundwater moves through the subsurface from higher elevations to lower elevations and from locations of higher pressure (called hydraulic head) to locations of lower pressure. The rate at which groundwater moves is also influenced by the physical properties of the earth materials present, such as

[17] City of Concord, 2009, Concord Community Reuse Project Draft Revised Environmental Impact Report.
[18] ESA PWA, 2011, Concord Community Reuse Project: A Conceptual Plan for Restoration and Flood Management. Prepared for the City of Concord.
[19] City of Concord, 2009, Concord Community Reuse Project Draft Revised Environmental Impact Report.
[20] City of Concord, 2009, Concord Community Reuse Project Draft Revised Environmental Impact Report.
[21] City of Concord, 2009, Concord Community Reuse Project Draft Revised Environmental Impact Report.
[22] U.S. Department of the Navy, 2006, Final Environmental Condition of property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California.
[23] U.S. Department of the Navy, 2006. Final Environmental Condition of property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California.
[24] U.S. Department of the Navy, 2006. Final Environmental Condition of property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

the size and connectivity of pore or fracture spaces. Water generally enters the groundwater system as precipitation that slowly infiltrates soil and rock, although human activities such as irrigation and groundwater injection also deliver water to the groundwater system. Groundwater exits the subsurface by flowing into open water bodies (such as streams, lakes, and oceans), flowing onto the ground surface as springs or seeps, and via human-developed water wells.

The properties of the rocks and soil in an area affect the infiltration of surface water and the movement of groundwater. The bedrock ridge underlying the Los Medanos Hills is composed of sandstone, siltstone, mudstone, and conglomerate rock units, as well as unconsolidated sediments. The rocks of the Los Medanos Hills give way to thick unconsolidated alluvial deposits in the western portion of the project site, where surface water enters the subsurface through coarse alluvial deposits at the base of the hills.[25] Groundwater is generally found at depths of 30 to 50 feet below ground surface in the unconsolidated alluvium, under semi-confined to confined conditions.[26] Groundwater underlying the project site is east of and adjacent to the Clayton Valley groundwater basin, except between Clayton and Contra Costa Canals where a portion of the project site is within the Clayton Valley groundwater basin.[27] The water bearing alluvium in the Clayton Valley groundwater basin is over 700 feet thick.[28] Groundwater levels in the basin have demonstrated a slight gradual decline over the past 50 years.[29] Limited data exist regarding the occurrence and movement of groundwater in the basin.[30] Mount Diablo Creek marks the division between project site groundwater and the Clayton Valley groundwater basin. While the groundwater under the majority of the project site is not part of a mapped groundwater basin, it has been encountered in other studies of the site. Groundwater from the Clayton Valley basin supplies wells used to water livestock and to irrigate a nearby golf course.[31]

Water Quality

Surface Water

Beneficial Uses

As part of the Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin, the San Francisco Bay RWQCB, is charged with identifying and protecting beneficial uses of the Bay Area's surface waters. The Basin Plan is the guiding document for the RWQCB to identify water quality objectives and develop

[25] City of Concord, 2009. Concord Community Reuse Project Draft Revised Environmental Impact Report.

[26] U.S. Department of the Navy, 2006, Final Environmental Condition of property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

[27] San Francisco Bay Regional Water Quality Control Board, 2013, San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). Incorporating all amendments approved by the Office of Administrative Law as of June 29, 2013.

[28] California Department of Water Resources, 2004, Clayton Valley Groundwater Basin in California's Groundwater Bulletin 118. Last update February 27, 2004.

[29] California Department of Water Resources (DWR), 2004, Clayton Valley Groundwater Basin in California's Groundwater Bulletin 118. Last update February 27, 2004.

[30] California Department of Water Resources (DWR), 2004, Clayton Valley Groundwater Basin in California's Groundwater Bulletin 118. Last update February 27, 2004.

[31] U.S. Department of the Navy (Navy), 2006, Final Environmental Condition of property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California.

enforcement actions to protect water quality and to carry out the objectives of the Federal Clean Water Act. Accordingly, the RWQCB has identified the following existing beneficial uses for Mount Diablo Creek: cold freshwater habitat, fish migration, preservation of rare and endangered species, fish spawning, warm freshwater habitat, wildlife habitat, water contact recreation, and noncontact water recreation. Beneficial uses of Rattlesnake Creek and other smaller tributary ephemeral streams are not specifically identified in the Basin Plan; however, the Basin Plan states that the beneficial uses of any specifically identified water body generally apply to all its tributaries. Beneficial uses of streams that have ephemeral flows must be protected throughout the year and are designated as "existing."[32] By extension, the beneficial uses of Mount Diablo Creek therefore also apply to other ephemeral flows on the project site.

Surface Water Ambient Monitoring Program

The Surface Water Ambient Monitoring Program is designed to assess the conditions of surface waters throughout California.[33] A Surface Water Ambient Monitoring Program was implemented in 2003 at 11 locations in the Mount Diablo Creek watershed.[34] Water quality indicators used in this monitoring program included the health of insects, water temperature, dissolved oxygen, presence of nutrients (nitrogen, phosphorus) and metals in water or sediments, and water toxicity. Except for reaches downstream of Mount Diablo State Park, the benthic macroinvertebrate assemblages present in sampling locations indicated poor watershed health conditions including in areas sampled near the project site.[35] At the monitoring station nearest to, but upstream of, the project site, water quality benchmarks were exceeded for water temperature, dissolved oxygen, and nutrient levels.[36] Mercury and nickel were also found in the creek sediments at the monitoring station near the project site.

Impaired Water Bodies

Section 303(d) of the CWA directs the RWQCB to identify water bodies that do not meet State or federal standards for pollutants. Water bodies that exceed RWQCB criteria for water quality are considered "impaired," and are added to the State's impaired water body list, also referred to as the 303(d) list. The RWQCB prioritizes water bodies on this list based upon potential impacts to beneficial uses. Inclusion of a water body on the Section 303(d) List of Impaired Water Bodies triggers development of a Total Maximum Daily Load (TMDL) for that water body and a plan to control the associated pollutant/stressor on the list. Typically, a TMDL is the sum of the allowable loads of a single pollutant from all contributing point and

[32] San Francisco Bay Regional Water Quality Control Board (RWQCB), 2013, San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). Incorporating all amendments approved by the Office of Administrative Law as of June 29, 2013.

[33] California State Water Resources Control Board (SWRCB), 2015, Water Quality, http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/water_quality.shtml, accessed on March 10, 2015.

[34] San Francisco Bay Regional Water Quality Control Board, 2008, Final Technical Report: Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mount Diablo Creek, Petaluma River, San Mateo Creek, June 2007, revised 2008.

[35] San Francisco Bay Regional Water Quality Control Board, 2008, Final Technical Report: Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mount Diablo Creek, Petaluma River, San Mateo Creek, June 2007, revised 2008.

[36] San Francisco Bay Regional Water Quality Control Board, 2008, Final Technical Report: Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mount Diablo Creek, Petaluma River, San Mateo Creek, June 2007, revised 2008.

nonpoint sources. Mount Diablo Creek is on the impaired water body list for diazinon and toxicity. Diazinon is a synthetic orthophosphate that was used for pest control before it was outlawed for residential use in the United States in 2004. It is still approved for agricultural uses. Toxicity was determined by taking samples from locations along Mount Diablo Creek and evaluating how well the water samples supported three common organisms. One sample from upstream of the project site and one sample from downstream of the project site exceeded water quality benchmarks for toxicity.[37]

Groundwater Quality

The San Francisco Bay RWQCB is also charged with identifying and protecting beneficial uses of the Bay Area's ground waters, and has done so for Clayton Valley groundwater basin.[38] Existing and proposed beneficial uses of Clayton Valley groundwater include municipal and domestic supply, industrial process supply, industrial service supply, and agricultural supply.[39] The groundwater quality at the site has been characterized as fair, with relatively high total dissolved solids, chlorides, hardness, and iron concentrations.[40]

Flooding

Project Site

During large flood events, most natural streams overtop the banks of the low-flow channel and inundate adjacent low-lying areas. This overflow area is referred to as the floodplain of the stream. Flooding in Contra Costa County is predominantly confined within traditional riverine valleys. However, channel incision on Mount Diablo Creek has resulted in a deep channel with over-steepened banks that is not hydraulically connected to the adjacent floodplain through much of the area. The sources of flooding along Mount Diablo Creek are primarily attributed to inadequate bridge crossings and, as such, frequent flooding has been observed downstream of Willow Pass Road, just outside of the project site.[41] Overbank flooding occurs between Bailey Road and Concord Boulevard due to inadequate channel capacity.

FEMA maps flood-prone areas to establish flood risk zones as part of the National Flood Insurance Program. FEMA's flood hazard maps typically delineate the 100-year floodplain (the area inundated by a flood event that occurs, on average, once in every 100 years), and are also used by states and communities for emergency management and for land use and water resource planning. Mount Diablo Creek has been studied using detailed methods. Standard hydrologic and hydraulic study methods were

[37] San Francisco Bay Regional Water Quality Control Board, 2008, Final Technical Report: Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mount Diablo Creek, Petaluma River, San Mateo Creek, June 2007, revised 2008.

[38] San Francisco Bay Regional Water Quality Control Board, 2013, San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). Incorporating all amendments approved by the Office of Administrative Law as of June 29, 2013.

[39] San Francisco Bay Regional Water Quality Control Board, 2013, San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). Incorporating all amendments approved by the Office of Administrative Law as of June 29, 2013.

[40] U.S. Department of the Navy, 2006, Final Environmental Condition of property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California, April 28.

[41] ESA PWA, 2011, Concord Community Reuse Project: A Conceptual Plan for Restoration and Flood Management. Prepared for the City of Concord.

used to determine the flood hazard data. Flood events of a magnitude that are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (corresponding to events that have a 10 percent, 2 percent, 1 percent, and 0.2 percent chance of exceedance in a given year, respectively) have been selected as having special significance for floodplain management. Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for flooding sources studied in detail, including Mount Diablo Creek.[42] Peak discharge is the water flow that occurs when the maximum flood stage or depth is reached in a stream as a result of a storm event. FEMA has developed estimates of peak discharge in Mount Diablo Creek at the locations shown in Table 4.9-1.

TABLE 4.9-1 PEAK DISCHARGE DATA FOR MOUNT DIABLO CREEK

Location	Drainage Area (Square Miles)	10-Percent Annual Chance (cfs)	2-Percent Annual Chance (cfs)	1-Percent Annual Chance (cfs)	0.2-Percent Annual Chance (cfs)
Downstream of Bailey Road	21.83	3,670	5,670	6,350	7,760
Downstream of Bailey Road (Downstream of Naval Base Breakout)	N/A	1,547	1,547	1,560	1,654
Approximately 3,000 feet downstream of Bailey Road	N/A	2,172	2,572	2,777	3,270
Approximately 3,300 feet downstream of Bailey Road	N/A	2,207	2,647	2,791	3,138
Approximately 1.1 miles downstream of Bailey Road	N/A	2,893	3,789	4,046	4,602

Note: cfs = cubic feet per second
Source: Federal Emergency Management Agency, 2017a. Flood Insurance Study Contra Costa County, California and Incorporated Areas, Volume 1 of 5. Revised March 21, 2017.

The current FEMA Flood Insurance Rate Map shows flooding occurs along Mount Diablo Creek in multiple locations downstream of Bailey Road. However, the areas of flooding are generally not on the project site. The boundaries of the project site are 300 feet from Mount Diablo Creek, and the mapped areas of flooding are generally within 300 feet of Mount Diablo Creek on the northern side along the project site. Thus, during the 100-year storm event, fluvial flooding is not expected to occur on the project site with the exception of the corner of the site immediately north of Bailey Road and east of Mount Diablo Creek.[43]

Downstream Areas

Downstream of the project site, FEMA has mapped the area through the Diablo Creek Golf Course and West of Port Chicago Highway as inside the 100-year floodplain. The mapped floodplain includes the majority of the Diablo Creek Golf Course and Port Chicago Highway.[44]

[42] Federal Emergency Management Agency, 2017, Flood Insurance Study Contra Costa County, California and Incorporated Areas, Volume 1 of 5. Revised March 21, 2017.

[43] Federal Emergency Management Agency, 2017, National Flood Hazard Layer.

[44] Federal Emergency Management Agency, 2017, National Flood Hazard Layer.

4.9.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant hydrology and water quality impact if it would:

1. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin.
3. Substantially alter the existing drainage pattern of the site or 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: 1) result in substantial erosion or siltation on- or off-site; 2) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; 3) 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.
4. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

4.9.3 IMPACT DISCUSSION

HYD-1	The project could violate water quality standards or waste discharge requirements or otherwise degrade surface water or groundwater.

Construction

Construction activities associated with implementation of the proposed Plan would include earthwork activities that could affect water quality. Impacts would be most likely to occur during grading associated with the construction of the new or renovated park buildings, roads, and trails. Construction could cause erosion and runoff by temporarily increasing the amount of unvegetated or otherwise unprotected soils on the project site. In addition to impacts from erosion and runoff, contamination from fuels or other hazardous materials used during construction could also adversely affect water quality. In the absence of appropriate stormwater runoff controls during construction, uncontrolled construction-related runoff could result in a *potentially significant* impact on water quality.

Significance without Mitigation: *Potentially significant.*

Impact HYD-1.1: In the absence of appropriate stormwater runoff controls, Plan construction would result in non-point source pollution that could violate water quality standards or waste discharge requirements or otherwise degrade surface water or groundwater. This would be a potentially significant impact.

Mitigation Measure HYD-1.1: Prior to construction, the District shall prepare a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the requirements of the statewide NPDES Construction General Permit. The SWPPP shall be designed, without limitation, to address the following objectives: (1) all pollutants and their sources, including sources of sediment associated with construction, construction site erosion, and all other activities associated with construction activity are controlled; (2) where not otherwise required to be under a Regional Water Quality Control Board permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated; (3) site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity; and (4) stabilization best management practices (BMPs) are installed to reduce or eliminate pollutants after construction are completed. The SWPPP shall be prepared by a qualified SWPPP developer and included as part of construction specifications. The SWPPP shall include the minimum BMPs required for the identified Risk Level in accordance with NPDES Construction General Permit requirements. BMP implementation shall be consistent with the BMP requirements in the most recent version of the California Stormwater Quality Association Stormwater Best Management Handbook-Construction or the Caltrans Stormwater Quality Handbook Construction Site BMPs Manual.

Significance after Mitigation: *Less than significant.* All construction activities would be required to adhere to NPDES Construction General Permit requirements, including implementation of BMPs identified in a SWPPP for the project. The BMPs would be selected based on characteristics of the project site and aimed at avoiding impacts, as discussed in Section 4.9.1.1. The SWPPP would also meet the requirements of Policy C-4.3 of the Concord Reuse Project Area Plan, including development of erosion control strategies and measures to minimize and control potential pollution sources. Implementation of the BMPs, as required by Mitigation Measure HYD-1.1 and outlined in the SWPPP, would minimize potential adverse effects to water quality during construction, and reduce the potential construction phase water quality effects to less-than-significant.

Operation

While precise building plans have not yet been developed, it is estimated that development of the proposed Regional Park would install approximately 16.5 acres of new development, most of which would be impervious area, and replace 40.5 acres of existing impervious area in certain areas of the site, including buildings (such as the Visitor Center and Native Plant Nursery structures) and paved roads and trails. In other areas, impervious surfaces (such as roads) would be removed.[45] Overall the project would reduce the total impervious area on the site by approximately 41 acres or 33 percent.[46] However,

[45] Existing developed areas includes approximately 125 acres of roadways, parking lots, and asphalt aprons surrounding buildings. Also included are a wide variety of structures, including buildings and magazines. This relatively broad category is collectively used to describe any land surface on site that consists primarily of steel, asphalt, or concrete. Such areas often contain patches of ruderal vegetation as well as landscaped trees and shrubs. During construction by the Navy, the tops of the magazines on the site were covered with soil, and a plant community similar in structure and composition to the adjacent grasslands has developed over the years. Accordingly, the top of the magazine structures has been included in the California annual grassland vegetation community and are not included in this number.

[46] Based on preliminary site plan estimates, the project site would contain approximately 84 acres of developed park uses once complete. This includes the following existing infrastructure areas that would not be converted to restoration areas: paved

depending on location and building site characteristics, new and replaced impervious areas have the potential to provide new sources of non-point source pollution to receiving waters such as Mount Diablo Creek and Rattlesnake Creek. In the absence of appropriate stormwater runoff controls during operations, non-point source pollution from the project would present a *potentially significant* impact on water quality.

Significance without Mitigation: *Potentially significant.*

Impact HYD-1.2: In the absence of appropriate stormwater runoff controls, Plan operations would result in non-point source pollution that could violate water quality standards or waste discharge requirements or otherwise degrade surface water or groundwater. This would be a potentially significant impact.

Mitigation Measure HYD-1.2: Prior to issuance of building permits for proposed improvements, the City shall verify that the District has included post-construction stormwater controls in the site design in accordance with the requirements of Chapter 16 of the City's Municipal Code 16 and the regional NPDES MS4 Permit. The City shall review the final Stormwater Control Plan (SCP) and any necessary changes by the City shall be incorporated into project design plans to ensure the required controls are in place and adhere to the requirements of the NPDES MS4 Permit including all applicable C.3 stormwater control requirements. At a minimum, the SCP shall demonstrate how the following measures would be incorporated into the Project:

- Low impact development (LID) site design principles (e.g., preserving natural drainage channels, treating stormwater runoff at its source rather than in downstream centralized controls)
- Source control BMPs in the form of design standards and structural features for all proposed areas of development.
- Source control BMPs for landscaped areas shall be documented in the form of a Landscape Management Plan that relies on Integrated Pest Management and also includes pesticide and fertilizer application guidelines designed to minimize any off-site discharges.
- Treatment control measures (e.g., bioretention, porous pavement, vegetated swales) targeting any potential pollutants such as sediment, pathogens, metals, nutrients (nitrogen and phosphorus compounds), oxygen-demanding substances, organic compounds (e.g., PCBs, pesticides), oil and grease, and trash and debris. The SCP shall demonstrate that the project has the land area available to support the proposed BMP facilities sized per the required water quality design storm.

Significance after Mitigation: *Less than significant.* Because this project would replace over 10,000 square feet of impervious area and add over 10,000 square feet of new impervious area, it is subject to the requirements of the NPDES Municipal Regional Permit (MRP; described in Section 4.9.1.1). With implementation of Mitigation Measure HYD-1.2, stormwater would be managed on-site in

roads, rail, unpaved roads, and magazines/building sites. This number also includes 16.5 acres of new development. This is a conservative (worst-case) scenario as it includes unpaved roads, which could be considered as permeable areas, and it does not account for the earthen/grassy portions of magazines. Excluding the unpaved roads, the developed park uses would be 70.2 acres.

compliance with the Chapter 16 of Concord's Municipal Code and the NPDES MRP. Pursuant to these regulations, the project would be required to incorporate LID features and facilities for hydromodification management (flow-control) as well as stormwater treatment for the new impervious areas. To comply with these requirements, the District would prepare and submit to the City of Concord for review and approval a Stormwater Control Plan, which would draw upon the LID Design Guide from the Contra Costa Clean Water Program Stormwater C.3 Guidebook. The guidebook includes sizing factors and criteria for "treatment and flow control" to ensure that stormwater is managed in a manner that protects water quality and manages flow quantities. Most projects use a combination of site design measures (self-treating and self-retaining areas) and bioretention facilities to meet runoff treatment and flow-control requirements. Pursuant to the City of Concord's Municipal Code, the Stormwater Control Plan must include an exhibit and calculations showing the site drainage and proposed treatment and flow-control facilities meet the NPDES C.3 criteria.

Outside of the changes in drainage patterns, the proposed project would not include any other discharges that could adversely affect surface water or groundwater. Therefore, implementation of stormwater design features specified in the Stormwater Control Plan as required by Mitigation Measure HYD-1.2 would reduce this impact to less than significant.

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.**

Construction

Groundwater generally occurs at depths ranging between 30 to 50 feet below ground surface across most of the project site, but is closer to the ground surface in areas near creeks and streams. Accordingly, while most construction activities associated with implementation of the proposed Plan would not be expected to encounter groundwater, it may emerge in excavations for project components near surface drainages, such as the Visitor Center near Mount Diablo Creek. Dewatering of open excavations, when necessary, would involve pumping water out of the excavated area and discharging it in compliance with the NPDES Construction General Permit (discussed under Impact HYD-1). The affected groundwater for excavations would be from the shallow groundwater, which is not used as a source of municipal drinking water. Such dewatering activities would be limited to as-needed pumping, would be temporary in nature, would be localized in its effect, would only affect unconfined groundwater, and thus would not substantially affect local groundwater levels. Groundwater levels would return to pre-project conditions once construction is completed. Therefore, construction activities would not substantially decrease groundwater supplies or interfere with groundwater recharge, and impacts would be *less than significant*.

Operation

Once construction is complete, most of the project site's existing open space would remain undeveloped, and the existing natural, pervious surfaces would allow for continued infiltration of surface water. While the project would install new impervious features, it would also remove existing impervious features so the total amount of impervious surface on the site would decrease by approximately 41 acres. In addition,

groundwater extraction would not occur as part of project operations. For these reasons, groundwater supplies would not be decreased by the project. Impacts of project operation on groundwater levels and groundwater recharge would be *less than significant*.

Significance without Mitigation: *Less than significant.*

HYD-3	**The project could substantially alter the existing drainage pattern of the site or 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 result in substantial erosion or siltation on- or off-site.**

The project would generally preserve the existing drainage patterns of the site by limiting grading (pursuant to Area Plan Policy C-2.5), reusing existing paved areas for new facilities, and not placing new structures in watercourses. Many existing roads would be removed and trails would be removed from use; once completed, removal of these facilities would allow revegetation of currently unvegetated areas. A new paved path at the northern end of the site would be installed across an existing bridge that spans the Contra Costa Canal. At the southern end of the project site, a new unpaved path would cross an ephemeral drainage. These two paths would not place new structures or fill within the watercourses and so would not substantially alter the watercourses. New roads and trails generally contour the topography or are in areas of low relief. However, if not designed appropriately, project elements whose locations and designs have yet to be finalized, could cause substantial erosion or siltation of Mount Diablo Creek. The impact would be *potentially significant*.

Significance without Mitigation: *Potentially significant.*

Impact HYD-3: If not designed appropriately, Project elements whose locations and designs have yet to be finalized, could cause substantial erosion or siltation of Mount Diablo Creek. This would be a potentially significant impact.

Mitigation Measure HYD-3: Implement Mitigation Measures HYD-1.1 and HYD-1.2.

Significance after Mitigation: *Less than significant.* As discussed in Impact HYD-1, the project would also be required to incorporate LID features and facilities for hydromodification management (flow-control) as well as stormwater treatment applicable across the site, and the District would prepare and submit to the City of Concord for review and approval a Stormwater Control Plan as required by Mitigation Measure HYD-3, which would draw upon the LID Design Guide from the *Contra Costa Clean Water Program Stormwater C.3 Guidebook*. The guidebook includes sizing factors and criteria for "treatment and flow control" to ensure that stormwater flow quantities are managed across the project site, reducing the potential for new impervious surfaces or other drainage alterations to cause new erosion or siltation. The SWPPP to be prepared pursuant to Mitigation Measure HYD-1a and Policy C-4.3 of the Area Plan would include erosion control strategies. For these reasons, the project would have a less-than-significant effect related to erosion, sedimentation, or flooding resulting from altered drainage patterns with implementation of Mitigation Measure HYD-3.

HYD-4 **The project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.**

As discussed under Impacts HYD-1 and HYD-3, the project would not substantially alter watercourses, and it would result in an overall reduction in total impervious area on the site. By removing impervious area, the project would reduce the volumes of runoff generated across the site during smaller storms as well as during flood events. Thus, the project overall would thus decrease the amount of surface runoff that could contribute to off-site flooding. Nevertheless, given the project would involve some areas of new impervious surface area, without appropriate design, project elements whose locations and designs have yet to be finalized, could inadvertently cause localized flooding on-site. The impact would be *potentially significant*.

Significance without Mitigation: *Potentially significant.*

Impact HYD-4: Without appropriate design, Project elements whose locations and designs have yet to be finalized, could inadvertently cause localized flooding on-site. The impact would be potentially significant.

Mitigation Measure HYD-4: Implement Mitigation Measures HYD-1.2

Significance after Mitigation: *Less than significant.* For the new and redeveloped impervious areas, as required by Mitigation Measure HYD-4 and pursuant to the City of Concord Municipal Code and the MRP, the project would be required to develop and implement a Stormwater Control Plan that meets the criteria of the most recent version of the *Contra Costa Clean Water Program Stormwater C.3 Guidebook*. Because the project would create or replace more than 10,000 square feet of impervious surfaces, the District would be required to address runoff reduction and baseline hydromodification management through stormwater flow control features. The Stormwater Control Plan must also describe how stormwater control features would be maintained during operation of the project. Since the project would reduce overall impervious area at the site, and Stormwater Control Plan measures would be required for compliance with the MRP and City of Concord Municipal Code, the project would not substantially increase the rate or amount of surface runoff in a manner which could result in flooding on- or off-site. The impact would be less than significant with mitigation.

HYD-5 **The project could substantially alter the existing drainage pattern of the site or 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 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.**

As discussed under Impact HYD-1, the project would reduce overall impervious area, and stormwater runoff from project facilities would be managed on-site using swales and other stormwater retention

features. Overall, the project would reduce the total impervious area on the site by approximately 41 acres or 33 percent. Nevertheless, given the project would involve some areas of new impervious surface area, without appropriate consideration for existing drainage patterns, Project elements whose locations and designs have yet to be finalized, could inadvertently result in substantial additional sources of polluted runoff. The impact would be *potentially significant*.

Significance without Mitigation: *Potentially significant.*

Impact HYD-5: Without appropriate consideration for existing drainage patterns, Project elements whose locations and designs have yet to be finalized, could inadvertently result in substantial additional sources of polluted runoff. This would be a potentially significant impact.

Mitigation Measure HYD-5: Implement Mitigation Measure HYD-1.2.

Significance after Mitigation: *Less than significant.* As required by Mitigation Measure HYD-5 and pursuant to the MRP Provision C.3 requirements, as described in the *Stormwater C.3 Guidebook*, the swales and other stormwater retention features that would be required as part of project design to capture runoff from the new and redeveloped impervious areas. The stormwater detention feature designs, along with operations and maintenance information combined into the project's Stormwater Control Plan, as required by Mitigation Measure HYD-5, must be approved by the City of Concord prior to construction. Implementation and maintenance of the stormwater facilities pursuant to the Stormwater Control Plan would ensure that the project would not create or contribute runoff water which would exceed the capacity of stormwater drainage systems or provide substantial additional sources of polluted runoff. Therefore, the impact would *be less than significant with mitigation*.

HYD-6 The project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

As discussed above for Impact HYD-2, temporary dewatering of work areas would be required during construction and groundwater extraction would not occur as part of project operations. In addition, the project would decrease the overall amount of impervious surface area such that groundwater infiltration would likely increase with the project. As a result, there would be no conflict with or obstruction of any sustainable groundwater management plan. Therefore, the project would have a less-than-significant impact related to conflicts with sustainable groundwater management plans.

With respect to potential conflicts with a water quality control plan, for the reasons set forth in Impact HYD-1, in the absence of appropriate stormwater runoff controls during construction and operation, uncontrolled stormwater runoff could result in a *potentially significant* impact on water quality.

Significance without Mitigation: *Potentially significant.*

Impact HYD-6: In the absence of appropriate stormwater runoff controls, Plan construction and operation would result in non-point source pollution that could conflict with a water quality control plan. This would be a potentially significant impact.

Mitigation Measure HYD-6: Implement Mitigation Measures HYD-1a and HYD-1b.

Significance after Mitigation: *Less than significant.* As discussed for Impact HYD-1, the project would be required to adhere to all applicable NPDES Construction General Permit requirements during construction and include drainage control features pursuant to the MRP Provision C.3 requirements, as described in the *Stormwater C.3 Guidebook*, in accordance with Mitigation Measure HYD-6 (Mitigation Measure HYD-1a and HYD-1b). These requirements would be sufficient to meet water quality objectives of the San Francisco Bay Region Water Quality Control Plan (Basin Plan).

HYD-7 The project would not be in a flood hazard, tsunami, or seiche zones with risk of release of pollutants due to project inundation.

As discussed in Section 4.9.1, 100-year flood hazards have been mapped by FEMA near the Visitor Center, and at the edge of the project site north of Bailey Road near the proposed Corps Yard and Native Plant Nursery. However, implementation of the project would not install new structures in either mapped FEMA flood hazard area. Therefore, the project would not place structures that would impede or redirect flood flows in areas mapped as part of the 100-year (or 500-year) floodplain area. In addition, pursuant to Concord General Plan Policy POS-3.1.3 and Area Plan Policy C-3.1, project components would be set back from the creek banks and major drainage ways and would be built outside any buffer established by regulatory agencies. For these reasons, the project would have a *less-than-significant* impact related to impeding or redirecting flood flows.

The project would also not directly or indirectly be subject to inundation by tsunami or seiche. Tsunamis are ocean waves caused by an underwater earthquake, landslide, or volcanic eruption. The project site is located in an inland area over 20 miles from the ocean and so would not affect patterns of tsunami inundation. Seiches are waves in a semi-enclosed or enclosed body of water such as a lake, reservoir, or harbor. The project site is not near and the project would not create a large enclosed water body that could produce seiches. The project site is not near and the project would not construct dams or other structures that could release large volumes of water that may generate mudflows. Therefore, *no impact* would occur.

Significance without Mitigation: *Less than significant.*

4.9.4 CUMULATIVE IMPACTS

HYD-8 The project would not contribute to significant cumulative hydrology and water quality impacts.

Hydrology and water quality impacts are related to changes in water quality, groundwater storage, and flooding. The geographic scope of groundwater cumulative impacts is the Clayton Valley groundwater basin. The geographic scope of surface water hydrology cumulative impacts is the Mount Diablo Creek watershed. The geographic scope of water quality impacts includes both the groundwater basin and the watershed.

As discussed above, the project would have no impact related to the following: the placement of housing with flood hazard areas; exposure to risks as a result of the failure of a levee or dam; inundation by seiche, tsunami, or mudflow; or other substantial degradation of water quality. Therefore, there would be no significant cumulative impact on these resources to which the project would contribute, and they are not discussed further.

As discussed under impact discussions HYD-1, HYD-3, and HYD-6, project construction and operation would include activities that could affect water quality in Mount Diablo Creek and its tributaries. With implementation of Mitigation Measures HYD-1.1, HYD-3, and HYD-6, including BMPs identified in a SWPPP prepared pursuant to the NPDES Construction General Permit, the project would not adversely affect water quality during construction. Similarly, implementation of stormwater treatment and flow control measures pursuant to these measures, including the MRP and City of Concord Municipal Code, would reduce the project's impacts on water quality during operations. Other projects that could have similar effects in the Mount Diablo Creek watershed include the Concord Reuse Project Specific Plan development area and the other cumulative development projects in Concord that are listed in Chapter 4.0. These projects would also be subject to the same regulations as the proposed project, which would serve to reduce their effects on water quality. Therefore, the cumulative impact on water quality would be less than significant.

As described under impact discussion HYD-2, the project could involve limited dewatering from the shallow groundwater zone during construction. No dewatering would be required during operation. Other projects overlying the Clayton Valley groundwater basin may also result in temporary dewatering from shallow groundwater; however, the effects would be temporary and limited to the near vicinity of the dewatering activity, and none of the cumulative projects are adjacent to areas within the project site where excavation would occur. As a result, there would be no significant cumulative impact on groundwater levels or groundwater recharge.

As discussed under impact discussions HYD-4, a portion of the project site is in the 100-year FEMA floodplain. However, implementation of Mitigation Measure HYD-4 would require appropriate stormwater drainage control requirements to minimize peak flows off-site. In addition, as explained above in impact discussions for HYD-5 and HYD-7, the project would not result in on- or off-site flooding or expose structures to risk associated with flooding because no structures would be built in these areas, and total impervious area on the site would decrease by approximately 33 percent with project implementation.

Past, present, and probable future development within the Mount Diablo Creek watershed could cumulatively exacerbate flooding conditions if the development were to increase the frequency or severity of flooding or cause flooding in areas where it would not have otherwise occurred. The only other project in the cumulative scenario whose effects could combine with those of the project to cumulatively increase the frequency or severity of flooding or cause new flooding is the development area of the Concord Reuse Project Area Plan.

As part of planning for the Concord Reuse Project Area Plan, the City of Concord has developed conceptual plans for potential projects or design concepts applicable to Mount Diablo Creek to accommodate both existing flood flows and flood flows attributable to redevelopment as described in the Concord Reuse

Project Area Plan.[47] These concepts focus on appropriately managing flood hazards while restoring existing aquatic, riparian, and wetland habitats. These projects and concepts would help to manage and direct increased flows caused by development. The conceptual plans are in progress and have included concepts for managing flood hazards through a combination of improved flow conveyance with channel restoration and the design and installation of detention facilities to divert and detain creek flows into suitably low gradient sites large enough to provide adequate flood storage. Earlier iterations of the conceptual plans included installing a detention basin on the project site;[48] however, current conceptual plans would not install a detention basin anywhere on the project site, instead using suitable areas within other parts of the Concord Reuse Project area for this purpose. No development would occur on the Concord Reuse Project development area until the City of Concord has received a Conditional Letter of Map Revision from FEMA for the area; FEMA will only issue a Conditional Letter of Map Revision if an application has been submitted to FEMA that includes, among other items, certification that no structures are located in areas which would be affected by an increased base flood elevation (unless they have been purchased for relocation or demolition).

Given that the project would decrease the overall impervious area on the site, include stormwater runoff control measures for new and redeveloped impervious areas in its design, and would not affect conceptual plans for flood hazard management along Mount Diablo Creek, the cumulative flooding impact of the project and other projects in the cumulative scenario would be *less than significant*.

Significance without Mitigation: *Less than significant.*

[47] ESA PWA, 2011, Concord Community Reuse Project: A Conceptual Plan for Restoration and Flood Management. Prepared for the City of Concord.

[48] ESA PWA, 2011, Concord Community Reuse Project: A Conceptual Plan for Restoration and Flood Management. Prepared for the City of Concord.

4.10 LAND USE AND PLANNING

This chapter describes the regulatory framework for the East Bay Regional Park District's (District) planning and existing conditions on the project site related to land use in the vicinity of the project site, and the potential land use and policy consistency impacts that could result from development of the proposed project.

Although the CEQA analysis may identify some areas of general inconsistency, the inconsistency itself does not necessarily equate with a physical impact on the environment. The physical impacts associated with the proposed project are evaluated in the other sections of Chapter 4 in this Draft EIR.

The City of Concord, in a letter to the Park District dated July 27, 2017, sent in response to the Notice of Preparation of this Draft EIR, notes that the proposed Concord Hills Regional Park is a land use "strongly supported by the City's planning and CEQA work and reflects the Concord community's vision as developed through extensive outreach efforts." The City expresses concerns with park use areas and facilities, among other concerns, which are addressed in the Aesthetics, Biological Resources, and Transportation chapters of this Draft EIR.

4.10.1 ENVIRONMENTAL SETTING

4.10.1.1 REGULATORY FRAMEWORK

This section summarizes key federal, State, regional, District, and local regulations and policies pertaining to land use and planning that are applicable to the proposed project.

Federal Regulations

Land Transfer

Beginning in 1941, the Concord Naval Weapons Station (CNWS)was used for ammunition storage and logistical support to other Navy installations. The CNWS was the principal site for transshipment of ordnance and other supplies to US troops in all branches of the military during the Vietnam War. The Inland area of the CNWS was mothballed in 1999 due to changes in military operations, and the Base Closure and Realignment Commission (BRAC) officially approved the Inland area for closure in November of 2005. In 2007, the Navy declared approximately 5,000 acres of property at the former CNWS to be surplus to the needs of the federal government; also in 2007, the District submitted a letter of interest to the City of Concord as the Local Reuse Authority, expressing interest in a Public Benefit Conveyance (PBC) of a portion of the former CNWS. The City adopted its Community Reuse Plan for the former CNWS in 2010, and its Reuse Area Plan in 2012, which designated 2,537 acres as conservation open space for the establishment of a new regional park, to be conveyed to the District through a PBC through the Federal Lands to Parks program. Between the years 2012 and 2019, various plans, agreements, findings and opinions were approved by the City, the District, the regulatory agencies, the US Navy, and the National Park Service. Most recently, on July 2, 2019, the District's Board of Directors authorized the acceptance from the National Park Service of 2,216 acres of the former Weapons Station. The total size of the former CNWS conveyed or leased to the District is 2,543 acres.

Fish and Wildlife Service Biological Opinion

The United States Department of the Interior's Fish and Wildlife Service submitted a Biological Opinion to the Department of the Navy on May 30, 2017, which identified critical habitat on the project site, and to outline permits needed prior to site disturbance. Actions as outlined in the Biological Opinion are regulations by which the proposed project must comply to ensure consistency with goals and policies of the Department of Fish and Wildlife.

State Regulations

California Public Resources Code § 5440 and Article 3, 5500 series are the primary State regulations for assessing land use and planning in the Land Use Plan area. These programs are summarized below.

Special District

The Park District is an independent special district under the State Public Resources Code. Under the California Public Resources Code (Article 3, 5500 series), the District has the power to:

> "...acquire land...to plan...develop...and operate a system of public parks, playgrounds, golf courses, beaches, trails, natural areas, ecological and open space preserves, parkways, scenic drives, boulevards and other facilities for public recreation, for the use and enjoyment of all the inhabitants of the District...to conduct programs and classes in outdoor science education and conservation education...to employ a police force...prevent and suppress fires...and to do all other things necessary or convenient to carry out the purposes of the District.".

As such, Park District parklands, including the project area, are consistent with local general plan designations, but are otherwise independently managed.

Public Resources Code Section 5540

Under Public Resources Code Section 5540, the Park District is authorized to dedicate land or property rights for public park land and recreation use in perpetuity. This is a specific process through which the Park District Board of Directors, by formal resolution of dedications, specifies that certain described and mapped lands are set aside permanently as public parklands or trails. Section 5540.5 of the Public Resources Code provides that the Board may, by unanimous vote, exchange up to ten acres per year of dedicated land under specified circumstances. The Park District, with the participation of the citizen-based Park Advisory Committee (PAC), annually reviews its undedicated land holdings to determine which may be suitable for dedication in perpetuity. Based on this annual review, staff prepares a resolution recommending suitable land for dedication and presents it to the Board for adoption.

Regional Regulations

Plan Bay Area, Strategy for a Sustainable Region

The Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments' (ABAG) *Plan Bay Area 2040* is the San Francisco Bay Area's Regional Transportation Plan (RTP)/ Sustainable

Community Strategy (SCS). The Final Plan Bay Area was adopted on July 26, 2017. *Plan Bay Area 2040* was prepared by MTC in partnership with ABAG, the Bay Area Air Quality Management District (BAAQMD), and the Bay Conservation and Development Commission (BCDC). The SCS sets a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce greenhouse gas (GHG) emissions from transportation (excluding goods movement) beyond the per capita reduction targets identified by California Air Resources Board (CARB). Plan Bay Area's core strategy is "focused growth" in existing communities along the existing transportation network, through designating Priority Development Areas (PDAs) and Priority Conservation Areas (PCAs).

District Regulations

East Bay Regional Park District Master Plan 2013

The East Bay Regional Park District (District) Master Plan, adopted July 16, 2013, provides policy direction for stewardship and development of parks within the jurisdiction of the District. The Master Plan is organized into six chapters that describe the purpose and role of the District, challenges and priorities. The Master Plan also includes a vision, mission, parkland classifications, and standards, as well as policies related to land use within District properties, such as resource management, public access, interpretation and recreation services, park planning, and acquisition.

Regional Park

Concord Hills Land Use Plan creates a new "Regional Park" under the District's Master Plan; use of the parkland parcels would adhere to the Master Plan definition of a Regional Park:

> A Regional Park is a spacious land area with outstanding natural features including rare species of flora and fauna. A Regional Park also has sufficient land area to support many outdoor recreation opportunities for the enjoyment and education of the public…. A future Regional Park is Concord Hills.[1]

The Master Plan includes a number of policies related to land use and planning for parks that are applicable to Concord Hills Land Use Plan, particularly in the category of "Planning for Regional Parks and Trails." These policies are:

- PRPT1: The District will classify existing and potential parklands in the Master Plan. All District parks are categorized into one of the following five classifications: a. Regional Park; b. Regional Preserve; c. Regional Recreation Area; d. Regional Shoreline; and e. Regional Trail. At the time that the District prepares a Land Use Plan for a park, it will review the classification of the park and reclassify the park, if appropriate.
- PRPT2: A Regional Park must be 500 acres or more, including land and water. It must have scenic or natural resources in at least 70 percent of its area. A Regional Park must have the capacity to accommodate a variety of recreational activities; however, these activities, in a designated Recreation/Staging Unit, may not take place in more than 30 percent of its area.

[1] East Bay Regional Park District, 2013, Master Plan, page 89.

- PRPT10: The District encourages the creation of local trail networks that provide additional access points to the regional parklands and trails in order to provide loop trail experiences and to connect the regional system to the community. The District will support other agencies in completing local trail networks that complement the Regional Trail system and will coordinate with local agencies to incorporate local trail connections into District brochures.
- PRPT11: Regional trails may be part of a national, state, or Bay Area regional trail system. The District will cooperate with other agencies and organizations to implement these multijurisdictional efforts.
- PRPT12: To protect park resources while providing for regional recreational use and access, the District will prepare plans (Land Use Plans or System-wide Plans) that describe:
  - The various levels of resource protection and recreational intensity in the parks
  - Development projects and land management strategies for trails and parks.
  - Planning efforts will include consideration of proposals from the public.

  The District will strive to create and maintain up-to-date information about each of its parks. Significant changes or amendments to adopted plans will require further public comment and Board action.
- PRPT13: Land Use Plans will identify future resource management strategies and recreational use for entire parks and establish appropriate Land Use Designations. The District will continue to prepare Land Use Plans for new parks and will amend existing Land Use Plans as needed to accommodate growth and change.
- PRPT18: The District will coordinate with other agencies and organizations involved in planning for jointly managed regional trails or trails that extend beyond the District's jurisdiction. When applicable, the District will use planning and environmental studies done by or in cooperation with other agencies for trail planning and development.
- PRPT19: The District will establish unit designations (Natural Units, Recreation/Staging Units) and Special Features (Special Protection Features and Special Management Features) in a LUP or a System-wide Plan and will identify these units in appropriate planning documents.
- PRPT20: Natural, open space, or wildland areas with lower intensity recreational uses and facilities (primarily trails) will be designated as Natural Units. Natural Units will generally comprise the majority of parkland acreage, except in Regional Recreation Areas. Parklands will be designated as Natural Units to maintain open space and significant features in a cohesive area. A Natural Unit may contain Special Protection Features and Special Management Features.
- PRPT21: Areas of higher level recreational use and concentrations of service facilities will be designated as Recreation/Staging Units. Where possible, these areas will be clustered and located on the edges of the park.
- PRPT24: The District will seek to locate facilities in a manner that preserves open space whenever possible. The District will design proposed facilities so that their color, scale, style and materials will blend with the natural environment. Park improvements will be designed to avoid or minimize impacts on wildlife habitats, plant populations and other resources.

- PRPT27: The District will fully comply with the requirements of the California Environmental Quality Act (CEQA) for the development of new facilities. Evidence of CEQA compliance will be provided in the planning document or separately as a project-specific CEQA document. The District will also comply, when appropriate, with National Environmental Policy Act (NEPA).

Other Master Plan policies are applicable from the "Balanced Parkland Distribution" and "Key Elements of the Planning Process" sections:

- BPD1: The District will continue to acquire, develop and operate areas and facilities and to provide programs and services with the primary goal of achieving a long-term balance throughout the park system. The District will continue to allocate resources based on the populations from the most current census data for the West Metropolitan, South Metropolitan and Diablo sectors. To make most efficient use of public funds, the District will evaluate and seek to support and enhance the parks, programs and services of other agencies.
- KEP5: The District will work actively with cities, counties, districts and other governmental agencies to assure that they understand and consider District interests. The District will protect its interests when other jurisdictions plan or approve projects that affect the District and will work with them to develop and articulate mutual goals that are consistent with the District's standards. The District will seek to understand the perspectives of other governmental agencies and to resolve conflicts in mutually satisfactory ways.
- KEP6: The District will work with local governments and other agencies to develop funding agreements that offset the cost of maintaining and operating open space, parklands and trails accepted by the District in a manner consistent with the District's standards.

Local Regulations

The proposed project site is within the City of Concord City limits and adjacent to Contra Costa County and City of Pittsburg land, and is therefore heavily regulated by various plans. The project site is included in the Contra Costa County the City of Concord General Plan, City of Concord Area Plan, and the Concord Reuse Project Specific Plan. Other regulatory documents include the Long Term Management Plan and the Biological Opinion Document. Figure 3-4, General Plan Land Use Designations, in Chapter 3, Project Description, shows the General Plan land use designations in each of the three local jurisdictions discussed below, and Figure 3-5, Zoning, shows zoning designations.

This section describes the existing land use designations and zoning districts located within the project site. A General Plan land use designation refers to broad categories of different types of land uses, such as Single-Family Residential or Retail/Commercial, which are included and mapped within the General Plan. Each category establishes the general types of uses that are allowed by policy on a parcel with that designation. Each designation allows a range of possible intensities and the zoning district implements the land use designations.

City of Concord 2030 General Plan

The City of Concord 2030 General Plan, adopted October 2, 2007, provides the community's long-range policy direction intended to guide future growth, development, and conservation of resources. The

General Plan is organized into eight elements: Economic Vitality; Land Use; Growth Management; Transportation and Circulation; Parks, Open Space and Conservation; Safety and Noise; Public Facilities and Utilities; and Housing. Goals, principles, and policies within each element provide policy guidance for future growth. The General Plan Land Use Diagram applies land use designations to all parcels located within the City. While not controlling for the Districts' use and management of its Reuse Area, the Land Use and Growth Management Elements provide goals and policies applicable to the proposed project site which are evaluated for consistency with the proposed project in Section 4.10.3.

The project site currently has a General Plan land use designation of Concord Reuse Project Open Space (CRP-OS). The CRP-OS designation intends to protect and enhance the sensitive habitats and valuable topographical and hydrological features of the site through development of a regional park. Required park features are to be determined based upon natural resource permits; additional appropriate features include trails, shaded seating and picnic tables, and interpretive center site as natural resources permit.[2]

Most of the land immediately adjacent to the project site to the west, north of Bailey Road, is designated by the City of Concord General Plan for Concord Reuse Project (CRP) Village Neighborhood District, surrounded by and interlaced with the CRP Greenways, Citywide Parks, and Tournament Facilities designation. The CRP Village Neighborhood District is planned as areas within the Concord Reuse Project area intended for residential development at densities ranging from 6 to 45 units per net acre. The CRP Greenways, Citywide Parks, and Tournament Facilities designation is intended to provide a frame of linear parks and open space around future neighborhoods, as well as large areas planned for active recreational uses. A small area of land adjacent to the northwest corner of the project site is designated for CRP Commercial Flex, and is planned to accommodate light industrial, research and development, retail, hospitality, and office uses.

Concord Reuse Project Area Plan

The Concord Reuse Project Area Plan (Area Plan) includes policies and standards for land use, transportation, environmental protection, labor agreements, affordable housing, and public safety for the conversion of land uses within the Inland Area of the Concord Naval Weapons Station (CNWS) to civilian use. Adopted by City Council in 2012, the Area Plan adapted goals and concepts developed in the Reuse Plan, adopted in 2010, that articulated the community's preferred vision for the area. The Area Plan involves development of over 12,200 new housing units, over 6.1 million square feet of commercial floor space, and a variety of community facilities and city parks primarily clustered on the western portion of the former base. The Area Plan provides goals and policies applicable to the project site which are evaluated for consistency with the proposed project in Section 4.10.3.

Under the Area Plan, the project is designated as Conservation Open Space, and is consistent with the Concord General Plan.

[2] Concord Reuse Project Area Plan, Book 1 Chapter 3 Community Framework, Table 3-15: Open Space Standards.

Concord Reuse Project Specific Plan (2018-2020)

On November 20, 2018, the City of Concord released a Notice of Preparation for the environmental review of the Concord Reuse Project Specific Plan. The Specific Plan, when released in 2020, will be the land use regulation for the 2,327-acre section of the former Naval Weapons Station which is being conveyed to the City by the United States Navy.[3] The notice states: The City of Concord (City) will prepare an environmental impact report (EIR) pursuant to the California Environmental Quality Act (CEQA) to evaluate the potential physical environmental effects of development to be defined under a multi-phased Concord Reuse Project Specific Plan, including the Tournament Sports Park. Lennar Concord LLC (Lennar) has been selected as the Master Developer for Phase 1 of the Specific Plan Area, and is working with the City to prepare a proposed Specific Plan for the entire Specific Plan Area. The City anticipates that the proposed Concord Reuse Project Specific Plan would be built out in five phases: Concord Reuse Project Phases 1, 2 and 3; the BART Station property (BART Phase); and the Coast Guard property (Coast Guard Phase.)

The Concord Reuse Project Specific Plan would implement, refine, and augment the community vision expressed in the City's 2012 Concord Reuse Project Area Plan, adopted by the City Council in January 2012 as an amendment to the Concord 2030 General Plan. The Specific Plan Area would be developed according to the specific parameters for development as the Concord Reuse Project areas become available for transfer from the U.S. Navy to the City as a Local Reuse Authority, and as the BART Phase and Coast Guard Phase become available for development.

As the Concord Reuse Project Specific Plan boundary covers property outside, but adjacent to the boundary of the Concord Hills Land Use Plan, the regulations of the Specific Plan are not binding on the Park District, and are included in this section for reference. The City and the Park District are coordinating the two planning efforts closely.

Concord Municipal Code

The Concord Municipal Code (CMC), organized by Title, Chapter, and Section, includes all the ordinances for the City. Title 18, Development Code, includes regulations relevant to land use and planning policy. Specifically, the Title includes the Zoning Districts and Zoning Map for the city, general development standards, provisions for landscaping, parking and open space, as well as permit review procedures for new development applications.

The project site is zoned Study (S), which provides an interim zoning district for the CRP designation.

Land to the west of the project site south of Bailey Road, land is zoned rural residential (RR) and residential single-family (RS). The RR district is intended for residential development at densities of up to 2.5 units per net acre, and implements the rural residential (RR) designation of the General Plan. The RS district is intended for residential development at densities of between 2.5 and 10 units per net acre, and implements the low density residential (LDR) land use designation of the General Plan.

[3] This boundary does not extend north beyond Highway 4 and is different than the earlier Concord Reuse Project Area Plan boundary, which did extend beyond Highway 4 and did not include the Coast Guard base.

Concord Community Design Guidelines

The City's Design Guidelines, adopted August 1987, are the recommended desirable design principles for projects in the City. The Guidelines cover topics that include area context, site plan, amenities, building design, landscape design, parking, signage and utilities, and are utilized in the development review process to ensure new development is consistent with the existing character of the city.

Contra Costa County General Plan and Zoning

Although the Contra Costa County General Plan does not apply to the project site, it is relevant for development in unincorporated areas of the county that are immediately adjacent to the project site. Land south of Bailey Road adjacent to the project site to the west lies within County jurisdiction, as well as land adjacent to the project site to the east, southeast, and north. The Contra Costa County General Plan, adopted in 2000, provides goals, policies, and implementation measures that guide County decision-making processes regarding future growth within its Sphere of Influence (SOI) through the year 2020. The General Plan Land Use Map provides land use designations for all incorporated and unincorporated lands within the County's Urban Limit Line. All development in the County must conform to the land use designations outlined in the General Plan. Goals and policies contained in the Land Use Element of the General Plan provide guidance on how land use designations should be developed to contribute to the overall character of the County.

The County General Plan designates pockets of unincorporated land surrounding the project site for Single Family Residential – Low (SL), Single Family Residential – High (SH), Agricultural Lands (AL), Public/Semi-Public (PS) and Landfill (LF). The SL designation allows a population density of 2 to 7.5 persons per acre, and a range of between 1 and 2.9 units per net acre. The SH designation allows a population density of 12.5 to 22 persons per acre, and between 5 and 7.2 units per net acre. The AL designation allows agricultural, open space, and non-urban uses, and a maximum allowable density of 1 dwelling unit per 5 acres. The PS designation allows government-owned properties and public transportation corridors. The LF designation is for public or private landfills and related uses. Uses in any buffer area within this designation are limited to landfill-related uses, open space uses, and agricultural uses.

However, the Agricultural Preserve (A-4) zone does not permit parks and playgrounds, or publicly-owned buildings and structures.

Contra Costa County Urban Limit Line

Established in the late 1980s and continued with the adoption of Measure C in 1988, the Urban Limit Line (ULL) sets a ratio of land designated for urban and open space. Through the County General Plan horizon year, a maximum of 35 percent of land in the County is available for urban development. The ULL is coterminous with the Concord city limit; the City adopted the ULL in November 2007. The proposed project site is within the ULL.

City of Pittsburg General Plan and Zoning

Lands adjacent to the project site and to the east lie within the Pittsburg SOI. The Pittsburg 2020 General Plan, adopted December 2001, provides Land Use designations and seven State-mandated Elements, as

well as the following optional Elements: Growth Management, Urban Design, Downtown, Economic Development, and Public Facilities. Each Element of the Plan is organized by a description of existing conditions, goals, and policies. The City General Plan designates the land adjacent to the project site for Open Space and Hillside Low Density Residential uses. Lands adjacent to the project site to the east within the Pittsburg SOI are zoned for Open Space (OS), Planned Development (PD), and Hillside Planned District (HPD) uses. The OS district is intended for large public or private sites permanently designated for park and open space. The PD district is intended to establish a procedure for development of large parcels that provides flexibility from otherwise rigid regulations of base districts. The HPD district is intended to ensure that future development within hillside areas of the city will be compatible with the sensitive terrain of these areas.

4.10.1.2 EXISTING CONDITIONS

This section describes the existing land use located within the project site. Existing land use refers to the use currently in place on a property, regardless of the general plan land use designation or zoning district.

As stated in Chapter 3, Project Description, the new development potential under the proposed project would only occur in the 2,543-acre Regional Park; further, only 86 acres (3.4 percent) of the overall park space have been planned for recreational uses (including 35 acres within Recreation/Staging). Therefore, the following describes the existing conditions for the Regional Park only. The Reuse area is 5,028 acres.

Existing Land Uses

The project site is located on the eastern portion of the 5,028-acre former CNWS site, owned by the U.S. Navy. Originally developed for agricultural use in the late 1800s, it was transferred to the Navy in 1944. As such, land within the flat area at elevations below the Los Medanos Hills has been previously disturbed by grading, construction, and military activities. The site also includes facilities to support the former naval operations on-site which consist of buildings, high-explosive magazines located in the lower elevations of the hills, gun-ammunition magazines on the flat land, barricaded railroad sidings, and a network of access roads and rail lines. In addition, inactive agriculture research areas dedicated to the cultivation of non-native trees, eucalyptus, and pine stand scattered throughout the site. The site is surrounded by perimeter fencing and a network of security and livestock fences run throughout the site. Approximately 90 percent of the site is currently in use by livestock grazing, including the lower elevations and the Los Medanos Hills.[4] An abandoned concrete airfield runway is located on the CNWS site, bordered by Willow Pass Road and Olivera Road, but is not included in the project site.

Surrounding Land Uses

As shown on Figure 3-1, Regional Location, in Chapter 3, Project Description, of this EIR, the project site is located along the border of the cities of Concord and Pittsburg, and is also adjacent to unincorporated areas of Contra Costa County. The site, along with undeveloped land along this border, forms a greenbelt along the ridge between the two municipalities. The project site is bounded on the north and west by the

[4] City of Concord, 2008, Concord Community Reuse Plan Draft EIR, Figure 3-2.

remainder of the Inland Area of the CNWS, on the southwest by existing residential neighborhoods within Concord, and on the south and east by undeveloped land within Pittsburg and unincorporated Contra Costa County. Primary uses adjacent to the project site include residential neighborhoods within Concord, residential and open space in the City of Pittsburg, and open space in unincorporated Contra Costa County. The eastern edge is predominately used for agricultural grazing. It is privately owned and located within the Pittsburg's SOI.

The Concord Pavilion, an amphitheater commonly used for concerts and local community events, is located to the south of the site. As shown in Figure 3-3, Local Context, in Chapter 3, Project Description, of this EIR, the project site is located west of the Keller Canyon Landfill, which extends to the northeast of the project site and has been in operation since 1992.

4.10.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact related to land use and planning if it would:

1. Physically divide an established community.
2. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

4.10.3 IMPACT DISCUSSION

LAND-1 The project would not physically divide an established community.

The proposed project would have a significant environmental impact if it were sufficiently large enough or otherwise configured in such a way as to create a physical barrier or other physical division within an established community. The physical division of an established community typically refers to the construction of a physical feature (such as a wall, interstate highway, or railroad tracks) or the removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community, or between a community and outlying areas. An example of a physical feature that would divide an existing community is an airport, roadway, or railroad track through an existing community that could constrain travel from one side of the community to another or impair travel to areas outside of the community.

As discussed under Section 4.10.1.2, Existing Conditions, above, approximately 90 percent of the site is currently in use by livestock grazing. In addition, abandoned defense-related facilities and agriculture research areas are scattered throughout the project site. The site does not contain residential uses or an established community. Since the 1940s, the site's use as a military facility has meant that access to and across the site was severely restricted. The proposed project would open the site to public access and provide a circulation network and visitor amenities to attract and encourage public access. In addition, because the proposed project is envisioned within the larger Area Plan, linkages to the planned adjacent development within the Concord Reuse Project area are anticipated.

As discussed in Chapter 3, Project Description, of this Draft EIR, the proposed project includes park uses concentrated along the lower elevations, limited road and trail development in the hills and along the ridge, and trail connections that connect the Regional Park to the surrounding open spaces and communities. The heart of the park would be the Concord Hills Regional Park and Port Chicago Naval Magazine National Memorial Visitor Center (Visitor Center), which would serve as the primary gateway point for park activities. Many recreational and visitor-serving amenities would be located within the immediate area around the Visitor Center building, collectively referred to as the Visitor Center Complex. Staging areas would be located in the north and south areas of the Regional Park, and an approximately 28-mile trail network would be developed. The proposed trail network would utilize the existing road and rail network established by the Navy and serve as a means to connect recreational use areas within the Regional Park, as well as to regional trails and surrounding communities.

Components of the proposed project would include a trail network for connecting uses across the project site and to nearby areas (see Table 3-1). As the site does not contain residential uses, these improvements do not propose any new major roadways or other physical features through parcels designated for residential use or other communities that would create new barriers in the project site and would not physically divide any existing communities. Moreover, the proposed project would allow and encourage access and visitation to the property, which is currently closed. Therefore, there would be *no impact* related to the division of an existing community.

Significance without Mitigation: *No impact.*

LAND-2	**The project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.**

This section discusses how the proposed project is consistent with other applicable regional and local land use plans, policies, and regulations that concentrate on land use and planning.

East Bay Regional Park District Master Plan

The District's 2013 Master Plan provides guidelines for parkland planning units, which consist of Natural Units, Recreation/Staging Units, and Special Protection Features. The following evaluates consistency with these guidelines.

Natural Units

Natural Units are intended to preserve and enhance natural habitat, and to provide continuous and cohesive open space to support large and robust ecosystems. Natural Units should "comprise the majority of parkland acreage" within Regional Parks. Appropriate uses should include "natural, open space, or wildland areas with lower intensity recreational uses and facilities (primarily trails)."

As described in Chapter 3, Project Description, Natural Units would comprise approximately 2,417 acres, or 95 percent, of the proposed Regional Park. Land uses would consist of terrestrial and aquatic habitat areas and open space on the majority of land located at upper elevations of the park, as well as on-trail

hiking, non-motorized bicycle riding, walking, horseback riding, wildlife observation and photography, and environmental education or interpretation. Maintenance roads and trails would be accessible for fire prevention, police, and maintenance staff.

Recreation/Staging Units

The District defines Recreation/Staging Units as "suitable for more intensive public recreational use and are of sufficient size to support the necessary parking, utilities, and infrastructures needed for such use." These units should be dedicated to visitor use and are intended to be located near access roads, clustered together, near the edges of parks. They are primarily located on relatively flat land to avoid fragmentation within habitat areas and allow for continuous, uninterrupted Natural Units.

As described in Chapter 3, Project Description, and shown on Figure 3-7, Overview of the Proposed Regional Park, Recreation/Staging Units would comprise approximately 126 acres of the proposed Regional Park, including the 86 acres of the actual development footprint and a buffer from the conservation areas. Within these zones, there would be approximately 35 acres developed as recreation and operations facilities. These Units are clustered along the north, southeast, and west boundaries of the project site and are accessible from Kinne Boulevard, providing access from State Route 4. The Visitor Center Complex would be the main entry into the park, while the Mount Diablo Creek Trail would provide non-vehicular access.

Special Protection Features

The District defines Special Protection Features as "areas with unique or fragile natural, cultural, aesthetic or education features, such as biologic, hydrologic, archaeological, historic, or geologic features." Planning efforts and management strategies are utilized to preserve and enhance the unique features of these areas.

As described in Chapter 3, Project Description and depicted on Figure 3-7, 620 acres of the Park's Natural Units would be designated as Special Protection Features. Chapter 4, Operations and Management, of the proposed project includes measures to ensure future park operations are consistent with District Policy PRPT22, such as restricting public access.

Special Management Features

Areas with distinctive management within Regional Parkland are proposed to be set aside as Special Management Features, which direct staff to be aware of unique conditions within these areas and the need for a specialized management approach towards these areas. The proposed project includes one Special Management Feature, a community orchard that would be located in the footprint of a historic homestead and orchard. The community orchard would be planted with fruit trees and managed for productive harvest, community gathering, and education, and is designated as such, consistent with District Policy PRPT23.

City of Concord General Plan and Zoning

Land Use Designation Consistency

The General Plan and Zoning Ordinance are the primary land use planning documents for the City of Concord. As discussed in Chapter 3, Project Description, the proposed project seeks to ensure resource protection and to provide a range of recreational and educational opportunities for visitors. This is consistent with the proposed project site's current land use designation of CRP-OS, which intends to protect and enhance the sensitive habitats and valuable topographical and hydrological features of the site. The project site is zoned Study (S) to allow for the open space uses to be more fully defined through the City and District planning processes. Therefore, the proposed project would be consistent with existing land use designations and zoning districts in the City of Concord.

Policy Consistency

The General Plan Guidelines published by the State Office of Planning and Research (OPR) defines consistency as follows; "An action, program, or project is consistent with the General Plan if, considering all its aspects, it will further the objectives and policies of the General Plan and not obstruct their attainment." Therefore, the standard for analysis used in this Draft EIR is based on general agreement with the policy language and furtherance of the policy intent (as determined by a review of the policy context). A comparison of the project's characteristics with all applicable polices outlined in the General Plan as they relate to land use issues are presented in Table 4.10-1.

Concord Community Reuse Project Area Plan

The Area Plan provides policies and standards for land use within the project site. The following policies and standards (Table 4.10-2) in the proposed project would ensure consistency with the Area Plan.

The proposed project would introduce parks and recreation and open space uses adjacent to existing residential areas to the west of the site, including the Sun Terrace and Holbrook neighborhoods, and the Coast Guard Housing Complex.[5] The proposed new uses would be compatible with the residential areas, and the project includes a buffer of approximately two miles from the location of the proposed Visitor Center. Therefore, the proposed project would not impact the adjacent residential neighborhoods.

Other Land Use Plans

Plan Bay Area

The Economic Development Conveyance area of the Concord Reuse Project is designated as a PDA (Community Reuse Area/Los Medanos), with a future place type of Transit Neighborhood due to its proximity to North Concord BART, located adjacent to the western border of the project site. The vision

[5] City of Concord, 2008, Concord Community Reuse Plan Draft EIR, Figure 5-3.

TABLE 4.10-1 PROJECT CONSISTENCY WITH POLICIES OF THE CONCORD GENERAL PLAN

Number	Policy	Consistency Discussion
Chapter 3: Land Use (LU)		
LU-8.1.3	On the portions of the CRP [Concord Reuse Project] site that adjoin existing Concord neighborhoods, design open spaces and new buildings to be compatible in scale with adjacent established uses.	**Consistent.** The project would locate higher intensity uses such as staging and recreational facilities in a clustered manner, and would be designed to screen areas from hillside views. The color, scale, and style and materials of recreational facilities would be selected to blend with the natural environment or reflect the existing structures from former site users.
LU-8.1.6	Design built features and the circulation system to respond to the CRP site's natural form. Where slopes of 30% of greater occur within planned development areas on the CRP site, they should generally be set aside as open space.	**Consistent.** The project would locate higher intensity uses such as staging and recreational facilities in a clustered manner, on lower elevations. In addition, new trails would be constructed at a maximum of 8 to 12 percent grade. Land within the site with a slope greater than 30 percent would not be developed.
LU-8.1.9	Provide street and open space connections between the CRP site and established Concord neighborhoods at appropriate locations to improve accessibility and create a more cohesive and connected city.	**Consistent.** The project would include vehicular entrance points for the area north of Bailey Road, including the primary entrance near the Visitor Center along Kinne Road and two secondary entrances, one along Bailey Road and one along Delta Road. Trail connections to Black Diamond Mines and Mount Diablo would be provided at the southeastern portion of the site along Bailey Road, at the eastern portion of the site to Los Medanos Ridge Trail, and at the northern portion of the site to Delta de Anza Trail and Contra Costa Canal.
LU-8.2.1	Designate the most environmentally sensitive portions of the CRP site, including the Los Medanos Hills and the Mt Diablo Creek corridor, as permanent open space.	**Consistent.** The project would designate Natural Units and Special Protection Features within the site to preserve and manage natural resources. Public access within these areas will be limited, and the site as a whole will be preserved as permanent open space.
LU-11.1.10	Recognize the Los Medanos Hills between Concord and Pittsburg/ Bay Point as an essential part of the City's character and open space "frame", and take steps to preserve this area as permanent open space.	**Consistent.** The project would plan for the future transfer of the site to District ownership and the management of the site as open space. Public access within the conservation area will be limited to passive recreation trails. These areas would be located at the upper elevations of the site, including Los Medanos Hills, and adjacent to the Mount Diablo Creek corridor.

Source: City of Concord General Plan, 2007; PlaceWorks, 2017.

for the site includes development of transit villages throughout the CNWS site, as well as significant parks and open space.[6]

As described in Chapter 3, Project Description, the proposed project objectives include protecting, enhancing, and restoring natural resources, and to complete gaps in the regional trail network, promoting multi-modal access within the project site. As such, the proposed project is consistent with the Plan's four primary land use objectives to promote a network of complete communities; increase the accessibility, affordability, and diversity of housing; job creation; and protect the region's unique natural environment. The proposed project is also consistent with the intent of the Regional Center PDA, which designates the

[6] Association of Bay Area Governments, Priority Development Areas, https://abag.ca.gov/priority/development/, accessed on April 12, 2018.

TABLE 4.10-2 PROJECT CONSISTENCY WITH POLICIES OF THE CONCORD REUSE PROJECT AREA PLAN

Number	Policy	Consistency Discussion
Chapter 3: Conservation and Open Space		
C-1.1	Encourage new development to preserve natural elements that contribute to the community's ecological value and aesthetic character.	**Consistent.** The project would locate higher intensity uses such as staging and recreational facilities in a clustered manner, and would be designed to screen areas from hillside views. The color, scale, and style and materials of recreational facilities would be selected to blend with the natural environment or reflect the existing structures from former site users.
C-1.2	Obtain Natural Resources Permits for the entire site that incorporate the State, federal and regional resource agency conditions and approvals that would otherwise be required as specific development projects are proposed.	**Consistent.** The City is leading a sitewide permitting approach for the former CNWS that started with working with the United States Fish and Wildlife Service on the Biological Opinion and will continue with the United States Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife. The City's planning for the entire Inland Area of the former CNWS determined where the highest-quality biological resources were and planned for those to be conservation areas (i.e., the proposed Regional Park). Please see Chapter 4.3, Biological Resources, for more detail.
C-2.1	Require new development to use natural landform as a key determinant of land use and urban design. This shall include preservation of hillsides and ridgelines, and conservation as permanent open space of the Los Medanos Hills and area south of Bailey Road.	**Consistent.** The project would include vehicular entrance points for the area north of Bailey Road, including the primary entrance near the Visitor Center along Kinne Road and two secondary entrances, one along Bailey Road and one along Delta Road. Trail connections to Black Diamond Mines and Mount Diablo would be provided at the southeastern portion of the site along Bailey Road, at the eastern portion of the site to Los Medanos Ridge Trail, and at the northern portion of the site to Delta de Anza Trail and Contra Costa Canal.
C-2.2	Limit development on slopes that are 30 percent or greater. Where such slopes occur within the areas shown for urban uses on the Area Plan Diagram, they should generally be set aside as public or private open space in order to minimize the need for grading and earth movement. In the areas closest to the North Concord/Martinez BART station, some development on steeper slopes may be acceptable in order to maximize transit-oriented development opportunities.	**Consistent.** The project would designate approximately 2,417 acres of land for conservation area and preserved for conservation and management of natural resources. Public access within the conservation area will be limited to passive recreation trails. These areas would be located at the upper elevations of the site, including Los Medanos Hills, and adjacent to the Mount Diablo Creek corridor.
C-2.3	Preserve natural drainage patterns and watersheds on the site, and enhance the beneficial uses associated with Mt. Diablo Creek and other drainage features.	**Consistent.** The project would generally preserve the existing drainage patterns of the site by limiting grading, reusing existing paved areas for new facilities, and not placing new structures in watercourses. Because this project would replace over 10,000 square feet of impervious area and add over 10,000 square feet of new impervious area, it is subject to the requirements of the NPDES Municipal Regional Permit. Stormwater would be managed onsite in compliance with existing regulations. Pursuant to these regulations, the project would be required to incorporate Low-Impact Development features and facilities for hydromodification

TABLE 4.10-2 PROJECT CONSISTENCY WITH POLICIES OF THE CONCORD REUSE PROJECT AREA PLAN

Number	Policy	Consistency Discussion
		management as well as stormwater treatment for new impervious areas. Please see Chapter 4.9, Hydrology and Water Quality, for more detail.
C-2.4	Use open space to delineate the edge of the urbanized area, to frame new and established neighborhoods, to retain the visual profile of the site from other parts of Concord, and to maintain a distinct boundary between the Diablo Valley and the communities to the east.	**Consistent.** The project would designate approximately 2,417 acres of land for conservation area and preserved for conservation and management of natural resources. Public access within the conservation area will be limited to passive recreation trails. These areas would be located at the upper elevations of the site, including Los Medanos Hills, and adjacent to the Mount Diablo Creek corridor.
C-2.5	Conduct detailed site planning that limits the need for excessive grading. Where grading does occur, promptly revegetate disturbed areas to avoid erosion and minimize soil loss.	**Consistent.** The project would require grading at paved and unpaved parking lots, picnic areas, demolition of Buildings IA-55, 97, and 87, archive building, amphitheater, plaza near the Visitor Center, within the Corp Yard area, and along proposed road and trail segments. These areas have been selected based on an analysis of existing site conditions and constraints, which lead to a site plan that clusters development of these facilities in 3.4 percent of the overall park space. In addition, all park elements would be concentrated in previously disturbed areas to limit impacts to natural ecosystems.
C-5.5	Ensure that the siting of any recreational facilities or activities within the designated Conservation Open Space avoids sensitive habitat areas consistent with provisions of any applicable resource permits.	**Consistent.** The proposed Regional Park is the designated conservation area for the Area Plan. As such, it provides compensatory mitigation for impacts on three federally- and State-listed species (i.e., the California red-legged frog, California tiger salamander, and Alameda whipsnake) resulting from development of the non-conservation areas of the Area Plan, and it is required to implement all applicable avoidance and minimization measures contained in the Biological Onion. The proposed Plan has also been prepared consistent with the Long-Term Management Plan, and includes management prescriptions to minimize impacts to sensitive habitat. Please see Chapter 4.3, Biological Resources, for more detail.
U-7.2	Transmission Line Easements. Ensure that land uses and activities within transmission line easements are compatible with the function of these corridors and comply with applicable public safety standards.	**Consistent.** Pacific Gas & Electric (PG&E) has a 21-kilovolt overhead line running along the western edge of Concord Hills Regional Park, adjacent to Kinne Boulevard. PG&E also operates a 115-kilovolt transmission route along a utility corridor that runs parallel to Kirker Pass Road, south of the project site. Western Area Power Administration has an overhead transmission line along Kinne Boulevard. There are no transmission lines easements within the project site.
U-7.3	Petroleum and Natural Gas Pipelines. Ensure that land uses above and adjacent to the petroleum pipelines are compatible with those facilities and respect their existing easements. Alternatively, the pipelines may be rerouted as part of future development. Where appropriate, title surveys shall	**Consistent.** A PG&E natural gas distribution line provides natural gas to the northern areas within the former CNWS. The line terminates near the existing entrance gate north of Highway 4. A 24-inch high-pressure gas main traverses the site north of Highway 4, and a 20-inch high-pressure gas main travels in the utility corridor parallel to Kirker Pass Road. The only oil or gas pipeline

TABLE 4.10-2 PROJECT CONSISTENCY WITH POLICIES OF THE CONCORD REUSE PROJECT AREA PLAN

Number	Policy	Consistency Discussion
	be required to reveal any additional information about pipelines or easements prior to development.	within the project site boundary is a Kinder Morgan pipeline that runs along the western boundary of the project site and crosses into the project site south of Bailey Road. Planned land uses in this area include trails, Orchard Camp Road, and the community orchard, all of which would be sited in previously-disturbed areas.

Source: City of Concord Reuse Project Area Plan, 2012; PlaceWorks, 2017.

project site as a place that fosters a vibrant and diverse community, economy, and environment and embraces the principles of smart growth, transit-oriented development (TOD), and sustainability.

Contra Costa County General Plan

The Contra Costa County General Plan governs unincorporated portions of land adjacent to the project site to the east, southeast, and north. The County General Plan designates pockets of unincorporated land surrounding the project site for Single Family Residential – Low (SL), Single Family Residential – High (SH), Agricultural Lands (AL), Public/Semi-Public (PS), and Landfill (LF). As described in Chapter 3, Project Description, the proposed project consists of park uses concentrated on lower elevations, limited road and trail development in the hills and along the ridge, and trail connections to the surrounding areas. Park elements include roads and trails, picnic areas, education and event spaces, and campsites. As such, the proposed project would not conflict with existing land use designations or zoning districts.

Pittsburg 2020 General Plan

The land use designations of the Pittsburg General Plan would be consistent with the proposed project, as the Los Medanos Hills would be preserved as open space.

Summary

As discussed above, the proposed project would not conflict with the applicable land use plans adopted for the purpose of avoiding or mitigating an environmental impact in the project site, and the proposed project would be compatible with adjacent existing land uses. Therefore, the impact would be *less than significant*.

Significance without Mitigation: *Less than significant.*

4.10.4 CUMULATIVE IMPACTS

LAND-3 The project would not contribute to significant cumulative land use and planning impacts.

As discussed in Chapter 4, Environmental Evaluation, of this Draft EIR, this EIR takes into account growth projected by the proposed project, in combination with impacts from projected growth in the rest of

Contra Costa County and the surrounding region, as forecast by ABAG. The geographic context for the cumulative land use and planning effects, which occur from the proposed project combined with effects of development on lands adjacent to the cities of Concord and Pittsburg as well as Contra Costa County.

The land use analyses find that the proposed project would not divide an established community or conflict with established plans, policies and regulations adopted for the purpose of avoiding or mitigating an environmental effect. The proposed project would also not create or exacerbate land use conflicts in or outside the City of Concord. The proposed project would be consistent with existing and proposed changes in other local and regional plans, and would not create substantial conflicts associated with land use regulations. Development is likely to occur in surrounding cities and in the Contra Costa County region as well. One such future development within Concord is the development of the Concord Reuse Project and Tournament Sports Complex. The Final EIR Addendum determined that the Concord Area Plan could introduce short- or long-term land use compatibility conflicts by placing higher-intensity uses and non-residential uses close to the existing lower-density residential uses in the surrounding areas. These impacts are less-than-significant with Mitigation Measures LU-1 and LU-2 included in the Area Plan Final EIR Addendum, which reduce the impacts the Concord Area Plan may have on land use and planning. Therefore, the Final EIR Addendum did not include additional Mitigation Measures for adoption of the Concord Area Plan. The proposed project would not contribute to these impacts as no urban uses are included on the proposed Regional Park.

Similar to the proposed project, projects within the project site vicinity would be required to be in conformance with applicable local General Plan policies, which require development to avoid impacting land use and planning policies. Cumulative development could potentially result in a greater impact to the region. However, such development in the vicinity of the project site is taking place in already urbanized areas and would not require significant land use changes that would create land use conflicts, nor would they divide communities. Therefore, cumulative impacts related to land use changes and impacts would be *less than significant.*

Significance without Mitigation: *Less than significant.*