

3.9 HYDROLOGY AND WATER QUALITY

This section identifies the regulatory context and policies related to hydrology and water quality, describes the existing hydrologic conditions in Elk Grove, and evaluates potential hydrology and receiving water-quality impacts of the Housing Element and Safety Element Update (Project). The primary source of information used for this analysis is the *City of Elk Grove General Plan Update Draft Environmental Impact Report* (City of Elk Grove 2018). Potential effects related to water-supply, sewer/wastewater, and drainage/stormwater facilities are addressed in Section 3.14, "Utilities and Service Systems."

In response to the notice of preparation (NOP), one commenter requested that the EIR include the groundwater sustainability plan when evaluating water availability. This SEIR section includes discussion of California's groundwater management requirements, local groundwater management programs, and existing groundwater hydrology and quality. Impact 3.9-3 in this SEIR evaluates whether the Project would substantially decrease groundwater supplies or impede sustainable groundwater management. For more information and analysis regarding the Project's water demand and whether any water is anticipated to come from groundwater, please see Section 3.14, "Utilities and Service Systems," of this Draft SEIR.

3.9.1 Regulatory Setting

FEDERAL

Clean Water Act

The U.S. Environmental Protection Agency (EPA) is the lead federal agency responsible for water quality management. The Clean Water Act (CWA) is the primary federal law that governs and authorizes water quality control activities by EPA as well as the states. Various elements of the CWA address water quality. These are discussed below.

CWA Water Quality Criteria/Standards

Pursuant to federal law, EPA has published water quality regulations under Title 40 of the Code of Federal Regulations (CFR). Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the act, water quality standards consist of designated beneficial uses of the water body in question and criteria that protect the designated uses. Section 304(a) requires EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. As described in the discussion of state regulations below, the State Water Resources Control Board (State Water Board) and its nine regional water quality control boards (RWQCBs) have designated authority in California to identify beneficial uses and adopt applicable water quality objectives.

CWA Section 303(d) Impaired Waters List

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that do not attain water quality objectives after implementation of required levels of treatment by point source dischargers (municipalities and industries). Section 303(d) requires that the state develop a total maximum daily load (TMDL) for each of the listed pollutants. The TMDL is the amount of the pollutant that the water body can receive and still comply with water quality objectives. The TMDL is also a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. In California, implementation of TMDLs is achieved through water quality control plans, known as Basin Plans, of the State RWQCBs. See "State," section below.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the CWA to regulate municipal and industrial discharges to surface waters of the United States. NPDES permit regulations have been established for broad categories of discharges including point source waste discharges and nonpoint source stormwater

runoff. Each NPDES permit identifies limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits.

“Nonpoint source” pollution originates over a wide area rather than from a definable point. Nonpoint source pollution often enters receiving water in the form of surface runoff and is not conveyed by way of pipelines or discrete conveyances. Two types of nonpoint source discharges are controlled by the NPDES program: discharges caused by general construction activities and the general quality of stormwater in municipal stormwater systems. The goal of the NPDES nonpoint source regulations is to improve the quality of stormwater discharged to receiving waters to the maximum extent practicable. The RWQCBs in California are responsible for implementing the NPDES permit system (see the “State” section below).

National Flood Insurance Act

The Federal Emergency Management Agency (FEMA) is tasked with responding to, planning for, recovering from, and mitigating against disasters. The Federal Insurance and Mitigation Administration within FEMA is responsible for administering the National Flood Insurance Program (NFIP) and administering programs that aid with mitigating future damages from natural hazards.

As part of implementation of the National Flood Insurance Act (42 U.S.C. 4001 et seq.), FEMA prepares Flood Insurance Rate Maps (FIRMs) that delineate the regulatory floodplain to assist local governments with the land use planning and floodplain management decisions needed to meet the requirements of NFIP. Floodplains are divided into flood hazard areas, which are areas designated per their potential for flooding, as delineated on FIRMs. Special Flood Hazard Areas are the areas identified as having a one percent chance of flooding in each year (otherwise known as the 100-year flood). In general, the NFIP mandates that development is not to proceed within the regulatory 100-year floodplain if the development is expected to increase flood elevation by 1 foot or more.

STATE

Porter-Cologne Water Quality Control Act

California’s primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act) (Water Code Division 7, Water Quality). The Porter-Cologne Act grants the State Water Board and each of the nine RWQCBs power to protect water quality, and it is the primary vehicle for implementation of California’s responsibilities under the CWA. The applicable RWQCB for the Project is the Central Valley RWQCB. The State Water Board and the Central Valley RWQCB have the authority and responsibility to adopt plans and policies, regulate discharges to surface water and groundwater, regulate waste disposal sites, and require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substances, sewage, or oil or petroleum products.

Under the Porter-Cologne Act, each RWQCB must formulate and adopt a water quality control plan (known as a “Basin Plan”) for its region. The Basin Plan for the Central Valley Region includes a comprehensive list of water bodies within the region and detailed language about the components of applicable WQOs. The Basin Plan recognizes natural water quality, existing and potential beneficial uses, and water quality problems associated with human activities throughout the Sacramento and San Joaquin River Basins. Through the Basin Plan, the Central Valley RWQCB executes its regulatory authority to enforce the implementation of TMDLs and to ensure compliance with surface WQOs. The Basin Plan includes both narrative, and numerical WQOs designed to provide protection for all designated and potential beneficial uses in all its principal streams and tributaries. Applicable beneficial uses include municipal and domestic water supply; irrigation; noncontact and contact water recreation; groundwater recharge; fresh water replenishment; hydroelectric power generation; and preservation and enhancement of wildlife, fish, and other aquatic resources.

The Central Valley RWQCB also administers the adoption of waste discharge requirements, manages groundwater quality, and adopts projects within its boundaries under the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (General Permit).

NPDES Construction General Permit for Stormwater Discharges Associated with Construction Activity

The State Water Board has adopted the Statewide NPDES General Permit for Stormwater Discharges Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ). The State requires that projects disturbing more than 1 acre of land during construction file a Notice of Intent with the applicable RWQCB to be covered under this permit. Construction activities subject to the General Permit include clearing, grading, stockpiling, and excavation. Additionally, the Construction General NPDES Permit covers incidental removal of water from excavations during construction. Dischargers are required to eliminate or reduce non-stormwater discharges to storm sewer systems and other waters. A storm water pollution prevention plan (SWPPP) must be developed and implemented for each site covered by the permit. The SWPPP must include best management practices (BMPs) designed to prevent construction pollutants from contacting stormwater and keep products of erosion from moving off-site into receiving waters throughout the construction and life of the project; the BMPs must address source control and, if necessary, pollutant control.

NPDES Stormwater Permit for Discharges from Small Municipal Separate Storm Sewer Systems

The Municipal Stormwater Permitting Program regulates stormwater discharges from municipal separate storm sewer systems (MS4s). Stormwater is runoff from rain or snowmelt that runs off surfaces, such as rooftops, paved streets, highways, or parking lots, and it can carry with it pollutants, such as oil, pesticides, herbicides, sediment, trash, bacteria, and metals. The runoff can then drain directly into a local stream, lake, or bay. Often, the runoff drains into storm drains, which eventually drain untreated stormwater into a local water body.

The City is an MS4 co-permittee with the cities of Citrus Heights, Folsom, Galt, Rancho Cordova, and Sacramento and the County of Sacramento. NPDES permit terms are 5 years. The current regionwide permit (Order No. R5-2016-0040), adopted by the Central Valley RWQCB in June 2016, allows each permittee to discharge urban runoff from MS4s in its respective municipal jurisdiction, and it requires Phase I MS4 permittees to enroll under the regionwide permit as their current individual permits expire. Regional MS4 permit activities are managed jointly by the Sacramento Stormwater Quality Partnership, which consists of the seven jurisdictions covered by the permit.

Under the permit, each permittee is also responsible for ensuring that stormwater quality management plans are developed and implemented that meet the discharge requirements of the permit. Under the 2016 permit, measures should be included in the stormwater quality management plan that demonstrate how new development would incorporate low-impact development (LID) design in projects. The new permit also includes requirements for addressing TMDLs. The City Department of Public Works is responsible for ensuring that its specific MS4 permit (Order No. R5-2016-0040-005) requirements are implemented. Compliance with the MS4 permit is regulated through Chapter 15.12 of the City Municipal Code.

California Water Code

The California Water Code is enforced by the California Department of Water Resources (DWR). The mission of DWR is "to manage the water resources of California in cooperation with other agencies, to benefit the State's people, and to protect, restore, and enhance the natural and human environments." DWR is responsible for promoting California's general welfare by ensuring beneficial water use and development Statewide.

Groundwater Management

Groundwater Management is outlined in the California Water Code, Division 6, Part 2.75, Chapters 1-5, Sections 10750 through 10755.4. The Groundwater Management Act was first introduced in 1992 as Assembly Bill (AB) 3030, and has since been modified by Senate Bill (SB) 1938 in 2002, AB 359 in 2011, and the Sustainable Groundwater Management Act (SGMA) (SB 1168, SB 1319, and AB 1739) in 2014. The intent of the Acts is to encourage local agencies to work cooperatively to manage groundwater resources within their jurisdictions and to provide a methodology for developing a Groundwater Management Plan.

The SGMA became law on January 1, 2015, and applies to all groundwater basins in the State (Water Code Section 10720.3). By enacting the SGMA, the legislature intended to provide local agencies with the authority and the

technical and financial assistance necessary to sustainably manage groundwater within their jurisdiction (Water Code Section 10720.1).

Pursuant to the SGMA, any local agency that has water supply, water management, or land use responsibilities within a groundwater basin may elect to be a "groundwater sustainability agency" for that basin (Water Code Section 10723). The Sacramento Central Groundwater Authority (SCGA) has notified DWR that it has elected to become a groundwater sustainability agency pursuant to Water Code Section 10723.8 and that it intends to undertake sustainable groundwater management in an area roughly coincident with the Sacramento Valley Groundwater Basin, South American Subbasin.

Central Valley Flood Protection Act

The Central Valley Flood Protection Act of 2008 (Government Code Sections 65007, 65302.9, 65860.1, 65865.5, 65962, and 66474.5; Health and Safety Code Section 50465; and Water Code Division 5) establishes the 200-year flood event as the minimum level of protection for urban and urbanizing areas. As part of the State's FloodSAFE program, those urban and urbanizing areas protected by flood control project levees must receive protection from the 200-year flood event level by 2025. DWR and the Central Valley Flood Protection Board (CVFPB) collaborated with local governments and planning agencies to prepare the 2012 *Central Valley Flood Protection Plan* (CVFPP) (DWR 2012), which CVFPB adopted on June 29, 2012. The objective of the 2012 CVFPP is to create a systemwide approach to flood management and protection improvements for the Central Valley and San Joaquin Valley. The Central Valley Flood Protection Act calls for updates to the CVFPP every 5 years. The first update of the CVFPP was adopted in August 2017, and the next update is scheduled for 2022. As required by the Central Valley Flood Protection Act, the City has mapped inundation areas for a 200-year flood.

State Plan of Flood Control

Section 9110(f) of the California Water Code defines the State Plan of Flood Control as follows:

"State Plan of Flood Control" means the state and federal flood control works, lands, programs, plans, policies, conditions, and mode of maintenance and operations of the Sacramento River Flood Control Project described in Section 8350, and of flood control projects in the Sacramento River and San Joaquin River watersheds authorized pursuant to Article 2 (commencing with Section 12648) of Chapter 2 of Part 6 of Division 6 for which the board or the department has provided the assurances of nonfederal cooperation to the United States, and those facilities identified in Section 8361.

The State Plan of Flood Control encompasses a wide network of facilities that range from major structures, such as levees, drainage pumping plants, drop structures, dams and reservoirs, and major channel improvements, to minor components, such as stream gauges, pipes, and bridges.

LOCAL

Sacramento County Storm Drainage Utility Zone 11A

Most of the City is within the boundaries of Zone 11A of the Sacramento County Storm Drainage Utility. The City participates in the regional trunk drainage development fee program, which is specific to Zone 11A. Under a development impact fee program administered by Sacramento County, development in Zone 11A pays a Beach Stone Lake volume mitigation fee held in a trust for a future project. The Sacramento County Department of Water Resources pays flood insurance premiums for many homes in this floodplain from interest earned on funds held in the account.

Sacramento County Water Agency Zone 40

The SCWA created Zone 40 through Resolution No. 663 in May 1985. The purpose of Zone 40 is the acquisition, construction, maintenance, and operation of facilities for the production, conservation, transmittal, distribution, and sale of groundwater and surface water for the present and future beneficial use of the lands or inhabitants in the zone. The boundaries and scope of Zone 40's activities also include the use of recycled water in conjunction with groundwater and surface water. Most of the City's Planning Area is within Zone 40. The Zone 40 Water Supply Master

Plan, adopted in 2005, provides a plan of water management alternatives to be implemented and revised as availability and feasibility of water supply sources change in the future. The Zone 40 Groundwater Management Plan is a planning tool that assists the SCWA in maintaining a safe, sustainable, and high-quality groundwater resource for users of the groundwater basin underlying Zone 40. Section 5.12, Public Utilities, provides additional information regarding water supply and delivery.

Sacramento Central Groundwater Authority

SCGA manages groundwater in the Central Basin portion of the South American Subbasin. SCGA was formed in 2006 through a joint powers agreement signed by the Cities of Elk Grove, Folsom, Rancho Cordova, and Sacramento and Sacramento County. Among its many purposes, SCGA is responsible for managing the use of groundwater in the Central Basin to ensure long-term sustainable yield and for facilitating a conjunctive use program. The framework for maintaining groundwater resources in the Central Basin is the Sacramento County Water Agency (SCWA) Groundwater Management Plan, which includes specific goals, objectives, and an action plan to manage the basin. The plan also prescribes a well protection program to protect existing private domestic well and agricultural well owners from declining groundwater levels resulting from increased groundwater pumping attributable to new development in the basin (SCWA 2016).

The SGMA also authorizes a groundwater management agency in a basin compliant with the California Statewide Groundwater Elevation Monitoring program to prepare an "Alternative" to a groundwater sustainability plan. SCGA submitted an Alternative Submittal document to DWR, but the document was not approved because, among other deficiencies, DWR was unable to verify that groundwater yield thresholds established by SCWA would prevent adverse effects on groundwater (DWR 2019). SCGA is now preparing a Groundwater Sustainability Plan for submittal to DWR by January 31, 2022.

Water Forum Agreement

The Water Forum is made up of a diverse group of businesses, agricultural leaders, environmentalists, citizen groups, water managers, and local governments from Sacramento, Placer, and El Dorado Counties. These stakeholders came together in 2000 to form an agreement for water management with the goals of providing a reliable and safe water supply for the region's economic health through 2030 and preserving the fishery, wildlife, recreation, and aesthetic values of the lower American River. The Water Forum Agreement was formalized through a Memorandum of Understanding whereby all signatories agreed to carry out the actions specified for them. SCGA relied on the negotiated volume of groundwater production referred to in the Water Forum Agreement as the basis for the groundwater yield thresholds described in the Alternative Submittal discussed above.

City of Elk Grove General Plan

The *City of Elk Grove General Plan* (City of Elk Grove 2019a) contains the following policies related to hydrology and water quality:

- ▶ **Policy NR-3-1:** Ensure that the quality of water resources (e.g., groundwater, surface water) is protected to the extent possible.
- ▶ **Policy NR-3-2:** Integrate sustainable stormwater management techniques in site design to reduce stormwater and control erosion.
- ▶ **Policy NR-3-3:** Implement the City's NPDES permit through the review and approval of development project and other activities regulated by the permit.
- ▶ **Policy NR-3-5:** Continue to coordinate with public and private water users, including users of private wells, to maintain and implement a comprehensive groundwater management plan.
- ▶ **Policy NR-3-6:** Support and coordinate with the efforts of the Sacramento Central Groundwater Authority in the development, adoption and ongoing implementation of the Groundwater Sustainability Plan for the South American Subbasin.

- ▶ **Policy ER-2-2:** Require that all new projects not result in new or increased flooding impacts on adjoining parcels or on upstream and downstream areas.
- ▶ **Policy ER-2-3:** Locate, and encourage other agencies to locate, new essential government service facility and essential health care facilities outside of 100-year and 200-year flood hazard zones, except in cases where such locations would compromise facility functioning. *(Proposed to be amended as part of the Project. See Impact 3.9-5.)*
- ▶ **Policy ER-2-4:** Relocate or harden existing essential government service facilities and essential health care facilities that are currently located inside of 100-year and 200-year flood hazard zones.
- ▶ **Policy ER-2-6:** Development shall not be permitted on land subject to flooding during a 100-year event, based on the most recent floodplain mapping prepared by FEMA or updated mapping acceptable to the City of Elk Grove. Potential development in areas subject to flooding may be clustered onto portions of a site which are not subject to flooding, consistent with other policies of this General Plan.
- ▶ **Policy ER-2-8:** The City will not enter into a development agreement, approve a building permit or entitlement, or approve a tentative or parcel map for a project located within an urban level of flood protection area, identified in Figure 8-2 [of the General Plan], unless it meets one or more established flood protection findings. Findings shall be based on substantial evidence, and substantial evidence necessary to determine findings shall be consistent with criteria developed by DWR.

The four potential findings for a development project within the 200-year floodplain, as shown on Figure 8-2 [of the General Plan], are: 1) the project has an urban level of flood protection from flood management facilities that is not reflected in the most recent map of the 200-year floodplain; 2) conditions imposed on the project will provide for an urban level of flood protection; 3) adequate progress has been made toward construction of a flood protection system to provide an urban level of flood protection for the project, as indicated by the Central Valley Flood Protection Board; or 4) the project is a site improvement that would not result in the development of any structure, and would not increase risk of damage to neighboring development or alter the conveyance area of a watercourse in the case of a flood.

- ▶ **Policy ER-2-9:** Ensure common understanding and consistent application of urban level of flood protection criteria and conditions.
- ▶ **Policy ER-2-10:** Work with regional, county, and State agencies to develop mechanisms to finance the design and construction of flood management and drainage facilities to achieve an urban level of flood protection in affected areas.
- ▶ **Policy ER-2-17:** Require all new urban development projects to incorporate runoff control measures to minimize peak flows of runoff and/or assist in financing or otherwise implementing comprehensive drainage plans.
- ▶ **Policy ER-2-18:** Drainage facilities should be properly maintained to ensure their proper operation during storms.
- ▶ **Policy ER-6-8:** Continue to participate in the Sacramento Stormwater Quality Partnership to educate and inform the public about urban runoff pollution, work with industries and businesses to encourage pollution prevention, require construction activities to reduce erosion and pollution, and require developing projects to include pollution controls that will continue to operate after construction is complete.
- ▶ **Policy LU-5-12:** Integrate sustainable stormwater management techniques in site design to reduce stormwater runoff and control erosion.

City of Elk Grove Storm Drainage Master Plan

The City's comprehensive Storm Drain Master Plan (SDMP) identifies drainage concepts for upgrading the existing storm drainage and flood control collection system. It identifies and analyzes existing drainage deficiencies throughout the City, provides a range of drainage concepts for the construction of future facilities required to serve the City at buildout of the existing General Plan, and establishes criteria for selecting and prioritizing projects. The SDMP may also be used for the development of a capital drainage financing program (City of Elk Grove 2011).

City of Elk Grove Municipal Code

Municipal Code Chapter 15.12: Stormwater Management and Discharge Control

Municipal Code Chapter 15.12 provides authority to the City for inspection and enforcement related to control of illegal and industrial discharges to the City storm drainage system and local receiving waters. It also addresses the requirement for BMPs and regulations to reduce pollutants in the City's stormwater.

Municipal Code Chapter 16.44: Land Grading and Erosion Control

Municipal Code Chapter 16.44 establishes administrative procedures, standards for review and implementation, and enforcement procedures for controlling erosion, sedimentation, other pollutant runoff, and the disruption of existing drainage and related environmental damage to ensure compliance with the City's NPDES permit. The chapter requires, before grading activities begin, that a detailed set of plans be developed that include measures to minimize erosion, sediment, and dust created by development activities.

Municipal Code Chapter 16.50: Flood Damage Prevention

Municipal Code Chapter 16.50 regulates development in flood-prone areas through specific siting and design requirements consistent with FEMA regulations.

Flood Combining District

As required by the CVFPP flood management requirements, the City has incorporated related measures into Title 23 of its Municipal Code. Section 23.42.040 establishes a flood (F) combining district comprising all known land covered by rivers, creeks, and streams and land subject to flooding within the City. For certain regulations and standards, the district is divided into three components: F 100, corresponding to the 100-year floodplain; F 200, corresponding to the 200-year floodplain; and F 100/200, corresponding to the area overlapped by both the 100-year and 200-year floodplain. Municipal Code Section 23.42.040.E includes the following requirements:

No development or physical changes requiring a development permit required by this title shall be allowed within the two hundred (200) year floodplain unless it has first met one (1) or more of these findings; these findings shall be made by the designated approving authority, as specified by EGMC Chapter 23.16:

1. The project has an urban level of flood protection from flood management facilities that is not reflected in the most recent map of the two hundred (200) year floodplain;
2. Conditions imposed on the project will provide for an urban level of flood protection;
3. Adequate progress has been made toward construction of a flood protection system to provide an urban level of flood protection for the project, as indicated by the Central Valley Flood Protection Board for State projects, or by the Floodplain Administrator for local projects; or
4. The project is a site improvement that would not result in the development of a new habitable structure, and would not increase risk of damage to neighboring development or alter the conveyance area of a watercourse in the case of a flood. Improvements that qualify for this exemption include, but are not limited to, the replacement or repair of a damaged or destroyed habitable structure with substantially the same building footprint area; interior repairs or remodels to existing structures; new nonhabitable structures or repairs or remodels to nonhabitable structures including but not limited to landscape features, detached garages, and pools and spas.

Southeast Policy Area

The Southeast Policy Area (SEPA) is the last large-scale development area within the existing urbanized portion of the City and is approximately 1,200 acres in size. SEPA has its own storm drainage impact fee that replaces the Sacramento County Storm Drainage Utility Zone 11A fees. Projects in SEPA still pay the Beach Stone Lake fee.

3.9.2 Environmental Setting

HYDROLOGY AND DRAINAGE

Hydrology

The City is located in the southern end of the Sacramento Valley, approximately 30 miles northeast of the confluence of the San Joaquin and Sacramento Rivers. The Sacramento and San Joaquin Valleys make up the Great Valley geomorphic province of California, bounded by the Sierra Nevada to the east and the Coast Ranges to the west. The two rivers join in the Sacramento–San Joaquin Delta (the Delta), a massive complex of wetlands, marshes, and channels, and enter the Pacific Ocean at the San Francisco Bay.

The Sacramento River is the largest river and watershed system in California. Its watershed covers about 27,000 square miles and carries about 31 percent of the State's total surface water runoff. Its watershed covers 27,000 square miles and carries 31 percent of the State's total surface water runoff. Primary tributaries include the Pit, Feather, and American Rivers (SRWP 2010). The mouth of the Sacramento River is at Suisun Bay near Antioch, where it combines with the San Joaquin River. Following winter rains and Sierra snowmelt, the Sacramento River and its tributaries would historically rise and inundate their broad floodplains. This dynamic system deposited rich alluvial soil, changing the river's course, and creating oxbow lakes and backwater, clearing debris and streambeds, and supporting miles of wetlands and riparian forest (USFWS 2007).

Development began in the lower portions of the Sacramento River watershed in the mid-1800s to take advantage of the proximity of two large rivers and fertile soils. Reclamation districts began to form in the early 1900s to construct canal and levee systems as a means for controlling or preventing natural flood events in the low-lying areas adjacent to the river. However, the river channel and levees could not contain the floodwaters from larger storm events. In 1917, after the massive floods of 1907 and 1909, the State of California developed the Sacramento River Flood Control Project. This project is a system of weirs (lowered and armored sections of levees design to be overtopped by high flows) that release floodwaters into a bypass system when flows exceed the downstream capacity of the river channel.

Surface water resources in the Planning Area are part of the Morrison Creek Stream Group, and include Elder, Elk Grove, Laguna (and tributaries), Morrison, Strawberry, and Whitehouse Creeks. The Morrison Creek Stream Group drainage basin covers 192 square miles. The nine creeks that drain into Morrison Creek flow southwest and eventually drain into the Beach-Stone Lakes area west of Interstate 5 (I-5). Florin, Gerber, and Unionhouse Creeks are located close to the Planning Area in Sacramento County. Deer Creek is in the eastern portion of the Planning Area, parallel to the Cosumnes River. The Cosumnes River floodplain forms the eastern border of the Planning Area, and the river is part of the San Joaquin River watershed.

Laguna Creek, the main creek that flows through the City, has been altered by development. Channels, levees, and culverts have been created to alleviate the possibility of flooding, as well as accommodate different development scenarios. Other creeks in the Planning Area have also been similarly altered. However, the Cosumnes River is one of the last free-flowing, undammed rivers on the western slope of the Sierra Nevada.

Stormwater Drainage

Urban runoff is created by stormwater draining from impervious surfaces in developed areas. As stormwater flows from individual sites, it is traditionally collected in curb and gutter drainage systems and directed to larger storm drains that eventually drain to surface waters. Urban runoff within the City is conveyed through a storm drainage and flood control collection system that includes nearly 400 miles of underground piping and 60 miles of natural and constructed channels (City of Elk Grove 2018). The City owns and operates these facilities and channels, including pump stations, levees, detention basins, and other flood control features. The system manages drainage from 13 contributing watersheds and 10 major natural creeks that convey runoff in the City. The City's watersheds ultimately drain into the Stone Lakes National Wildlife Refuge area of Sacramento County, with the exception of the Deer Creek and Grant Line Channel watersheds, which drain to Deer Creek and ultimately to the Cosumnes and Mokelumne Rivers.

Flooding

Flooding affects portions of the Planning Area. The 100-year floodplain zone estimates inundation areas based on a flood that has a 1 percent chance of occurring in any given year. In the Planning Area, 100-year flood zones include areas along Laguna Creek in the northwest and north-central portion of the City, and along the Cosumnes River to the southeast, primarily outside of City limits, but still within the Planning Area. Flood risk is intensified in the lower stream reaches by high tides occurring in the Delta at the same time as strong offshore winds during heavy rainfall. A majority of the special flood hazard areas in the City are in Zone A or Zone AE, as designated by FEMA. Both zones correspond with the 100-year floodplain, and mandate flood insurance for certain homeowners with mortgages. Zone A shows no base flood elevations (BFE), while Zone AE has a BFE of less than 1 foot. The BFE represents the computed elevation to which water is expected to rise during the base flood event, and is used to determine floodproofing requirements for buildings.

A 200-year flood event, which has a 0.5 percent chance of occurring in any given year, could occur along Deer Creek and the Cosumnes River. Much of this land is preserved for agricultural use and would be at limited risk of damage from flood hazard zones. However, a 200-year flood event caused by levee breaks along the Sacramento River could result in flooding in portions of Laguna West, an existing residential neighborhood on the western side of the City. A 500-year flood event, which has a 0.2 percent chance of occurring in any given year, is possible in the northern portion of the City along the Sacramento River and Laguna Creek.

Levees

The existing levee system in areas surrounding the City was initially constructed by hand labor, and later by dredging to hold back river floods and tidal influences, in order to obtain additional lands for grazing and crop growing. Continued maintenance is necessary to hold these levees against the river floods that threaten surrounding areas. Because levees are vulnerable to peat oxidation as well as sand, silt, and peat erosion, new material is continually added to maintain them. Subsiding farmlands adjacent to levees may increase water pressure against the levees, adding to the potential for levee failure. In addition, many levees, known as non-project levees, are not maintained to any specified standard, which can increase the likelihood of failure and inundation. Levee failures can be difficult to predict, since even inspected project levees are prone to failure under certain conditions. DWR has, using the best available information, identified areas where flood levels would be more than 3 feet deep if a project levee were to fail; these areas are known as Levee Flood Protection Zones.

Levee construction, operation, and maintenance that is the responsibility of a federally authorized flood project in the State is considered part of the State Plan of Flood Control. These are referred to as "project levees." There are no project levees in the City, although several project levees are located outside of the Planning Area along the Sacramento River. Non-project levees are levees that were generally constructed prior to project levees and without federal or State assistance, and are not part of the State Plan of Flood Control. Non-project levees are located along the eastern side of I-5 and along Morrison Creek, Laguna Creek, and the Cosumnes River, and provide flood protection to the community. The City conducts levee operation and maintenance activities that result in recommendations as well as requirements for specific levee inspections and maintenance operations. (City of Elk Grove 2018)

Dams

"Dam inundation" refers to flooding that occurs when dams fail. Dam failure can occur from overtopping of a dam during extreme storm events, water seepage through earthen embankments causing internal soil erosion, or damage caused by seismic activities. National statistics show that overtopping due to inadequate spillway design, debris blockage of spillways, or settlement of the dam's crest accounts for approximately 34 percent of all U.S. dam failures (ASDSO 2020).

The Project site is within the inundation area of a failure at Folsom Dam. Folsom Dam, constructed between 1948 and 1956, is a series of earthen dams that flank a central concrete dam. Large storms in 1986 and 1997 forced dam operators to discharge high water flows into the lower American River to avoid overtopping of the dam. However, these high river flows stress river levees that protect the Sacramento area. An auxiliary spillway was constructed adjacent to Folsom Dam's main concrete dam in 2017. The gates of the new spillway structure sit 50 feet lower than the main spillway, which allows the dam manager to better react to large floods by safely releasing water earlier in a storm event

(Reclamation 2020). Currently, Folsom Dam is undergoing a 5-year effort to raise the height of the dam by 3.5 feet to increase flood protection for downstream residents. The work involves packing rock, gravel, dirt, and pavement on top of the earthen portions of the Folsom Dam and dike system. The central concrete dam is already taller than the adjacent earthen dams and will not be raised. The Project will increase the dam capacity by 4 percent (Bizjak 2020).

Climate Change

Climate change forecasts indicate that more intense rainfall events, generating more frequent or extensive runoff and flooding, will occur in the future (City of Elk Grove 2019b). Extreme weather events, such as high-intensity storms, could breach levees along the Sacramento and American Rivers, especially where levees have not yet been upgraded or do not meet the minimum FEMA requirements. Furthermore, as peak flow patterns increase as a result of more rapid snowmelt, the levees currently protecting the Sacramento region from flooding events come under greater stress from long-term increases in peak, high-volume runoff. The increased pressure and flow of the Sacramento and American Rivers will exacerbate the Sacramento region's existing vulnerability to severe flooding (Ascent Environmental 2017). For these reasons, areas within floodplains will be more vulnerable to heightened flooding threats (City of Elk Grove 2019b).

Groundwater Hydrology

The Central Valley of California contains the largest basin-fill aquifer system in the State. From north to south, the aquifer system is divided into the Sacramento Valley, Sacramento–San Joaquin Delta, and San Joaquin Valley subregions. The City of Elk Grove is situated within the Sacramento Valley Groundwater Basin, South American Subbasin. Within the larger South American Subbasin, there are three groundwater basins—North, Central, and South—in Sacramento County. The Project site is located within the Central Basin, which includes the City of Elk Grove and areas of Sacramento County and the City of Sacramento (City of Elk Grove 2018). Groundwater in the Central Basin generally occurs in a shallow aquifer zone (Modesto Formation) or in an underlying deeper aquifer zone (Mehrtens Formation). Groundwater in the shallow aquifer is generally located between 20 and 100 feet below the ground surface (bgs) depending on where and when the measurement is taken and extends to approximately 200–300 feet bgs (SCWA 2006). Water quality in this zone is considered to be good with the exception of high arsenic detections in a few locations. The deep aquifer is separated from the shallow aquifer by a discontinuous clay layer that partially isolates the two water sources. There is some potential for movement of groundwater between the two aquifers, usually the result of heavy groundwater pumping. The base of the potable water portion of the deep aquifer averages approximately 1,400 feet bgs. Water in this aquifer typically has higher concentrations of total dissolved solids, iron, and manganese (SCWA 2006).

Older municipal wells and all domestic wells have been constructed in the shallow aquifer zone to avoid treatment. However, the policies and practices of SCWA in the Central Basin have led to the construction of larger municipal wells that target the Mehrten Formation where higher production rates can be achieved and less impact on private domestic wells would occur. This policy has in turn led to California Department of Health Services (now the California Department of Health Care Services) requiring treatment of all municipal wells to meet primary and secondary drinking water quality standards (SCWA 2006).

Intensive use of groundwater over the past 60 years has resulted in a general lowering of groundwater elevations centered near Elk Grove. This localized lowering of the groundwater table is called a cone of depression. The Elk Grove cone of depression was first identified in the *Central Sacramento County Groundwater Management Plan* (SCWA 2006). The 2018 SGMA annual report found a substantial reduction in the size and extent of the cone of depression, which is attributed to active management of the basin and reductions in groundwater extraction (SGMA 2019).

WATER QUALITY

Surface Water Quality

Section 303(d) of the federal Clean Water Act establishes the total maximum daily load (TMDL) process, which requires states to identify waters whose water quality is "impaired" (affected by the presence of pollutants or contaminants), and to establish a TMDL or the maximum quantity of a particular contaminant that a water body can

assimilate without experiencing adverse effects on the waterbody's identified beneficial uses. The 303(d) list, approved by the EPA, identifies these impaired water bodies. According to the most recent 303(d) list, Elder, Elk Grove, and Morrison creeks are designated as impaired water bodies for various pesticides and sediment toxicity, resulting from urban runoff, agriculture, and unknown sources. The segment of the Sacramento River west of the Planning Area is listed for diazinon and mercury. The Delta waterways (northern portions), which are the downstream receiving waters for the Sacramento River, are designated as impaired water bodies. The upper Cosumnes River (above Michigan Bar) is listed for invasive species from an unknown source, and Deer Creek in Sacramento County is listed for iron from an unknown source (SWRCB 2010).

Groundwater Quality

Groundwater quality can be affected by many things, but the chief controls on the characteristics of groundwater quality are the source and chemical composition of recharge water, properties of the host sediment, and history of discharge or leakage of pollutants. The groundwater quality in the South American Subbasin is generally good, although iron and manganese are common and there are some occurrences of arsenic and nitrate. Groundwater in the upper aquifer system is of higher quality than that found in the lower aquifer system, although there are some occurrences of arsenic (which is known to occur naturally in aquifer sediments) and nitrate. Water from the upper aquifer generally does not require treatment other than disinfection for public drinking water systems unless high arsenic or nitrate values are encountered. The lower aquifer system contains higher concentrations of iron, manganese, and total dissolved solids (TDS), and wells that pump from the lower aquifer often require treatment for iron and manganese. Most of the SCWA's Zone 40 wells have iron and manganese treatment facilities. Principal groundwater contaminant plumes within the South American Subbasin emanate from source areas including Mather Field, Aerojet, Boeing, the former Army Depot, and various landfills. The presence of these contaminant plumes has impacted some existing municipal wells. Significant remediation efforts/programs by federal, State, and local government agencies are in progress to clean up the contaminated groundwater and confine the contaminant plumes from further spreading. There are ongoing discussions and negotiations between purveyors and parties responsible for the cleanup to keep the remediated groundwater in the South American Subbasin and put it to beneficial use (SCWA 2016).

3.9.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

The following impact analysis is based primarily on review of the information and analysis presented in the General Plan EIR as well as available literature, including documents published by the City of Elk Grove, State and federal agencies, and published information dealing with hydrology and water quality in the Elk Grove area. In determining the level of significance, the analysis assumes that the Project would comply with relevant federal, state, and local laws, ordinances, and regulations.

THRESHOLDS OF SIGNIFICANCE

An impact on hydrology or water quality is considered significant if implementation of the Project would do any of the following:

- ▶ violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;
- ▶ substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- ▶ substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would:

- result in substantial erosion or siltation on- or off-site;
 - result in flooding on-site or off-site;
 - create or contribute runoff water that would exceed the capacity of existing or planned stormwater- drainage systems or provide substantial additional sources of polluted runoff;
 - impede or redirect flood flows.
- ▶ in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; and/or
 - ▶ conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

ISSUES NOT DISCUSSED FURTHER

Inundation

In the event of dam failure, Folsom Dam and Sly Park Dam have the potential to cause flooding in the Planning Area. Flooding from Folsom Dam would affect existing development in the northwestern part of the City, which is already urbanized. The US Army Corps of Engineers is completing improvements to the Folsom Dam spillway on the American River to help reduce downstream flood risk. Flooding from Sly Park Dam would generally follow the Cosumnes River and would only affect a small area located between the North and East Study Areas. The potential for flooding from failure of either Folsom Dam or Sly Park Dam would not be exacerbated by the Project (City of Elk Grove 2018:5.9-27). Therefore, this issue as it relates to flooding due to dam failure is not subject to further analysis in this Draft SEIR.

Seiche, Tsunami, and Mudflow

As discussed in the General Plan EIR, the City is unlikely to be the site of a seiche, tsunami, or mudflow (City of Elk Grove 2018:5.9-28). Therefore, this issue is not addressed further in this Draft SEIR.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.9-1: Violate Any Water Quality Standards or Waste Discharge Requirements or Substantially Degrade Surface Water or Groundwater Quality during Construction Activities

General Plan EIR Impact 5.9.1 determined that potential impacts on water quality from future development activities would be reduced to a less-than-significant level through compliance with all applicable requirements, which could include Chapter 16.44 of the Elk Grove Municipal Code and the State's Construction General NPDES permit. Implementation of the Housing Element and Safety Element Update would be required to comply with these requirements and would not result in a new or substantially more severe water quality impacts than was addressed in the General Plan EIR. Project impacts would be **less than significant**.

General Plan EIR Impact 5.9.1 evaluated whether future development in the Planning Area that would involve construction-related activities that could expose soil to erosion during storm events, causing degradation of water quality. The analysis noted that individual development projects in the Planning Area would be required to comply with Chapter 16.44 of the Elk Grove Municipal Code, which requires implementation of measures to minimize erosion, sediment, dust, and other pollutant runoff created by improvement activities. Also, individual development projects that would disturb 1 acre or more would also be required to obtain coverage under the State's Construction General NPDES permit, which requires projects to develop and implement a SWPPP that includes BMPs and requires inspections of stormwater control structures and pollution prevention measures. The analysis concluded that compliance with applicable water quality regulations and proposed General Plan policies, implementation of the General Plan would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality. And, as a result, it would not violate the Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basin (Basin Plan). The impact would be **less than significant**.

Implementation of the Housing Element Update would facilitate the construction of additional residential units to accommodate anticipated housing demand. Implementation of the Safety Element Update could result in construction of projects involving emergency access improvements. Future projects under both elements would be required to adhere to all applicable requirements, including Chapter 16.44 of the Elk Grove Municipal Code and the State's Construction General NPDES permit, as applicable. Compliance would be demonstrated through submittal of site plans and/or improvement plans that identify the use of specific BMPs. The water quality protections built into NPDES and City permitting would reduce the potential for construction activities and construction dewatering to adversely affect water quality. There is no new significant effect and the impact is not more severe than identified in the General Plan EIR. This impact would be **less than significant**.

Mitigation Measures

No additional mitigation is required beyond compliance with Municipal Code Chapter 16.44 and the Construction General NPDES Permit.

Impact 3.9-2: Violate Any Water Quality Standards or Substantially Degrade Surface Water or Groundwater Quality from Polluted Stormwater Runoff

General Plan EIR Impact 5.9.1 determined that potential impacts on water quality from polluted stormwater runoff from future development would be reduced to a less-than-significant level through compliance with all applicable regulations and General Plan policies. Implementation of the Housing Element and Safety Element Update would be required to comply with these requirements and would not result in a new or substantially more severe impacts from polluted stormwater runoff than was addressed in the General Plan EIR. Project impacts would be **less than significant**.

As discussed in Impact 3.9-1 above, Impact 5.9.1 of the General Plan EIR evaluated the potential for future development under the General Plan to result in polluted stormwater runoff during operation (i.e., postconstruction). In compliance with the City's MS4 permit, General Plan Policies NR-3-2, NR-3-3, and LU-5-12, and Municipal Code Chapter 15.12, the City must require projects within the permit boundary to implement LID practices and BMPs to control stormwater runoff and protect water quality. LID uses site design and stormwater management to maintain the site's predevelopment runoff rates and volumes. The goal of LID is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall. LID practices and standards are described in the 2018 Sacramento Region Stormwater Quality Design Manual. Compliance with applicable regulations and General Plan policies would ensure that future projects would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality.

Implementation of the Housing Element Update would facilitate the construction of additional residential units to accommodate anticipated housing demand and potential emergency access and evacuation improvements. Implementation of the Safety Element Update could result in projects involving emergency access improvements resulting in ground disturbing activities that may affect water quality. Future projects under the Project would be required to adhere to all applicable requirements, including designing projects to be in compliance with the City's MS4 permit, General Plan, and Municipal Code. The water quality protections built into City's permitting process would reduce the potential for operation of future development under the Project to adversely affect water quality. There is no new significant effect, and the impact is not more severe than identified in the General Plan EIR. This impact would be **less than significant**.

Mitigation Measures

No additional mitigation is required beyond compliance with the City's MS4 permit, General Plan Policies NR-3-2, NR-3-3, and LU-5-12, and Municipal Code Chapter 15.12.

Impact 3.9-3: Substantially Decrease Groundwater Supplies or Interfere Substantially with Groundwater Recharge Such That the Project May Impede Sustainable Groundwater Management

General Plan EIR Impact 5.9.4 determined that impacts on groundwater supplies from future development under the General Plan would be significant and unavoidable for areas that would be annexed into the City. The Project involves parcels within the City and would not include any annexation activities. While the Project would add additional residential units beyond what was anticipated in the General Plan EIR, the increase in demand for water supply would be minor in comparison with anticipated supply surpluses. Therefore, Project impacts would be **less than significant**.

General Plan EIR Impact 5.9.4 evaluated the potential for implementation of the General Plan to result in an increased demand for water supplies, some of which would be groundwater. The analysis noted that although existing programs are in place to protect groundwater resources to ensure the sustainable yield set forth in the Water Forum Agreement, it was conservatively concluded that this was a potentially significant impact because future development under the General Plan may contribute to conditions that could affect aquifer volume or groundwater levels, and the City has no authority over management of groundwater resources. Further, the development of future groundwater supplies by SCWA (if determined by SCWA to be necessary) could result in environmental impacts, some of which may be significant. Examples of such impacts could include effects on biological resources, changes in surface water flows, or changes in groundwater levels. The SCWA would need to conduct project-level CEQA and possibly NEPA analysis, as necessary, to analyze specific impacts and identify any required mitigation measures. The General Plan EIR adopted Mitigation Measure 5.9.4, which requires implementation of adopted Mitigation Measure MM 5.12.1.1. Mitigation Measure 5.12.1.1 requires demonstration of adequate water supply prior to annexation through preparation of a Plan for Services prepared by the City and submitted to Sacramento Local Agency Formation Commission for approval. The analysis in the General Plan EIR concluded that there is no additional feasible mitigation to reduce this impact to less than significant, and this would remain a significant and unavoidable impact.

Implementation of the Housing Element Update would accommodate additional residential units beyond the amount anticipated in the General Plan EIR. Implementation of the Safety Element Update includes text changes to the element regarding emergency access and evacuation but would not result in activities that could affect groundwater resources. As calculated in Impact 3.15-1 of this Draft SEIR, the land use changes associated with the General Plan land use redesignation of candidate housing sites under the Housing Element Update could result in an increased demand for water of 45.11-acre feet per year (AFY) beyond what was anticipated under General Plan buildout of the City. For 2040, SCWA estimates a water demand of 86,047 AFY with surpluses ranging from 4,752 AFY to 18,853 AFY (City of Elk Grove 2018: Table 5.12-4). The additional demand represents less than one percent of the lowest projected surplus and 0.08 percent of the lowest projected demand. Given the small amount of increase from the Project relative to SCWA projected demands and surpluses, it is not anticipated that additional water supplies would need to be secured to serve the additional housing development under the Housing Element Update. While some of SCWA's supply comes from groundwater, the Project's additional water demand is minor compared with existing and projected demand and supplies that it is unlikely to result in substantially greater impacts to groundwater resources beyond what was identified in the General Plan EIR. For more information regarding SCWA demand, supply, and surplus, please see Impact 5.12-1 of this Draft SEIR.

The additional water demand from implementation of the Project would not be likely to require SCWA to seek additional groundwater supply to meet its demands. Thus, the Project would not result in a new or substantially more severe impacts regarding groundwater supply than was addressed in the General Plan EIR. Project impacts would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.9-4: Increase Localized Flooding Risk Because of Changes in Site Drainage

General Plan EIR Impact 5.9.2 determined that potential increases in flooding resulting from future development would be reduced to a less-than-significant level through compliance with all applicable regulations and General Plan policies. Future projects under the Housing Element and Safety Element Update would be required to comply with these requirements and would not result in a new or substantially more severe drainage and flooding impacts than was addressed in the General Plan EIR. Project impacts would be **less than significant**.

General Plan EIR Impact 5.9.2 evaluated whether future urbanization in the Planning Area would increase stormwater runoff as a result of changes in drainage patterns and increases in impervious surface. The analysis noted that within the City limits, infill-type development and development near transportation modes would be encouraged under the General Plan. This type of future development would not have a substantial effect on drainage patterns or stormwater runoff volumes. Some additional runoff due to changes in drainage patterns and increases in impervious surfaces would be expected if vacant or underutilized parcels, which are primarily located in the eastern part of the Planning Area, are urbanized. Stormwater management within the City limits would be guided by the SDMP. The analysis concluded that adherence to General Plan policies, the City's NPDES MS4 requirements, and Chapter 16.44 of the Municipal Code, all of which would be confirmed by City staff during project site design review and approval future projects that could be constructed in the Planning Area under the General Plan would not create or contribute runoff that would exceed the capacity of existing or planned stormwater drainage systems, or contribute additional sources of polluted runoff. The General Plan EIR concluded that this impact would be less than significant.

Implementation of the Housing Element and Safety Element Update would accommodate additional residential units beyond the amount anticipated in the General Plan EIR as well as the potential of new emergency and evacuation access improvements. However, subsequent projects under these elements would all be located within the existing City boundaries and therefore subject to the SDMP. Because future development under the elements would also be consistent with General Plan policies, the City's NPDES MS4 requirements, and Section 16.44 of the Municipal Code, the Project would not result in drainage impacts beyond those evaluated in the General Plan EIR. This impact would be **less than significant**.

Mitigation Measures

No additional mitigation is required beyond compliance with the City's NPDES MS4 permit requirements and Municipal Code Chapter 16.44.

Impact 3.9-5: Impede or Redirect Flood Flows

General Plan EIR Impact 5.9.3 determined that future development under the General Plan within the 100-year and 200-year flood zones could impede or redirect flood flows, but compliance with existing regulations and the proposed General Plan would ensure that impacts would be less than significant. Two of the housing sites (E-15 and C-4) are within the 200-year floodplain. Development proposals for these sites would be subject to the requirements of Municipal Code Section 23.42.040, which would ensure that development would not be approved until findings can be made pursuant to Municipal Code Section 23.42.040.E. Therefore, Project impacts would be **less than significant**.

General Plan EIR Impact 5.9.3 evaluated whether future development under the General Plan would have the potential to impede or redirect flood flows. The analysis noted that future development that could occur in areas subject to 100-year or 200-year flood hazards could impede or redirect flood flows. However, with implementation of General Plan policies and existing regulations, the potential for future development to cause new flooding or exacerbate flood hazards would be less than significant.

As discussed in Section 3.9.1, "Regulatory Setting," the City has incorporated flood management measures into Title 23 of its Municipal Code. Section 23.42.040 establishes a flood (F) combining district comprising all known land covered by rivers, creeks, and streams and land subject to flooding within the City. Section 23.42.040.E includes multiple requirements, at least one of which must be met before development would be approved for parcels in the 200-year floodplain. Requirements include demonstration that the parcel has an urban level of flood protection,

conditions that would impose the project to provide for an urban level of flood protection, demonstration of adequate progress towards an urban level of flood protection, or demonstration that site improvements would not include any new habitable structures and would not increase the risk of flood damage to neighboring development. It should be noted that pursuant to Government Code Section 65913.4(a)(6)(G), local governments shall not deny an application for affordable housing projects on the basis that the project does not comply with any additional permit requirement, standard, or action adopted by that local government that is applicable to that site, if the project is otherwise eligible for streamlined approval under that section.

Housing sites E-15 and C-4 are located within the 200-year floodplain. There are no housing sites proposed in any 100-year floodplain areas. Because they are located within the 200-year floodplain, housing sites E-15 and C-4 could be subject to inundation by up to 10 feet of water in the event of a levee or dam failure (City of Elk Grove 2019c). Potential future emergency access and evacuation improvements from implementation of the Safety Element Update could be located within the 100- and 200-year floodplains but would not result in a flood hazard and would not be required to comply with Municipal Code standards set forth Section 23.42.040. Future development of housing sites would be subject to the requirements of Municipal Code Section 23.42.040, which would ensure that development would not be approved until findings can be made pursuant to Municipal Code Section 23.42.040.E that requires the provision of an urban level of flood protection. Because subsequent projects under the elements would be subject to the Municipal Code and applicable General Plan policies, the Project would not result in flood hazard impacts beyond those evaluated in the General Plan EIR. This impact would be **less than significant**.

Mitigation Measures

No additional mitigation is required beyond compliance with Municipal Code Section 23.42.040.