

## 3.8 Flood Control and Drainage

This section describes effects on flood control and drainage from implementation of the proposed Project. The section describes existing environmental conditions in the affected area, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts from the construction, operation, and maintenance of the Project. Existing laws and regulations relevant to flood control and drainage are described in relation to the proposed Project. In some cases, compliance with existing laws and regulations would reduce or avoid impacts that might otherwise occur with implementation of the Project.

During the scoping period for the EIR (February 26 through March 27, 2015), written comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. The following substantive issues related to flood control and drainage were raised during scoping and are addressed in this section.

- Analysis should include peak flow reduction modeling and clarify the determination of the 100-year flood zone.

Additional scoping comments on this subject are addressed in the analysis of alternatives in Chapter 4.

### 3.8.1 Environmental Setting

The proposed Project is located in western Ventura County along the southern bank of the Santa Clara River and occupies unincorporated land in Ventura County as well as land within the City of Oxnard. The area surrounding the proposed Project is characterized as a generally flat, coastal plain. The westernmost extent of the proposed Project is located approximately 2.5 miles east of the outlet of the Santa Clara River to the Pacific Ocean. Before entering the proposed Project area, the river runs southwest towards the ocean. At the eastern end of the SCR-3 Project (Reaches 3 and 4), the river bends to the west and continues due west to its outlet at the ocean.

Surface watersheds in California are divided into ten hydrologic regions, as defined by the California Department of Water Resources (DWR). The proposed Project is located within the South Coast Hydrologic Region, a large coastal watershed in southern California (CDF, 2004). The South Coast Hydrologic Region covers nearly seven million acres and is bounded on the west by the Pacific Ocean, on the north by the Transverse Ranges, on the east by the Colorado River Hydrologic Region, and on the south by the international boundary with Mexico (DWR, 2003). Hydrologic Regions are subdivided into Hydrologic Units, and further into Hydrologic Areas. Within the South Coast Hydrologic Region, the proposed Project is located within the Santa Clara-Calleguas Hydrologic Unit and the Oxnard Plain Hydrologic Area. The Hydrologic Unit that contains the proposed Project is subject to the jurisdiction of the Los Angeles Regional Water Quality Control Board (LARWQCB), and is governed by the Water Quality Control Plan for the Los Angeles Region (LARWQCB, 1994).

Land uses within the Oxnard Plain include agriculture, open space, and residential, commercial, and industrial urban development. Land use changes over time have led to a change in local and regional hydrology. The Santa Clara River is one of the largest watersheds in coastal southern California, with elevations that range from sea level to nearly 2,700 meters (Stillwater Sciences, 2007). It drains an area of over 1,600 square miles and is one of the most natural and undisturbed of southern California's large watersheds (Stillwater Sciences, 2007). The watershed is largely unregulated by dams and high flow variability exists (Stillwater Sciences, 2007). Many past land use changes affect the flows of the Lower

Santa Clara River, the functioning of the estuary system and the Oxnard floodplain, and the sediment supply to the lower watershed (Stillwater Sciences, 2007). These changes directly affect the functioning, efficacy, and design criteria for flood control systems in the Project area. For instance, under an increased sediment deposition regime, overtopping of levees may be of greater concern than toe erosion (Stillwater Sciences, 2007). Land use changes, including urbanization, have already and will continue to exert an influence on the hydrologic regime of the Santa Clara River watershed. Urbanization has resulted in changes in the regional hydrology, including wildfire suppression, increased impermeability, and flood plain constriction due to levees (Stillwater Sciences, 2007). These changes have contributed to increased flood depths within the Project area.

### **3.8.2 Applicable Regulations, Plans, and Standards**

#### **3.8.2.1 Federal**

##### ***The National Flood Insurance Act of 1968, as amended, and The Flood Disaster Protection Act of 1973, as amended, 42 U.S.C. 4001 et. seq***

The purpose of these Acts is to “substantially increase the limits of coverage authorized under the National Flood Insurance Program; to provide for the expeditious identification of, and the dissemination of information concerning, flood-prone areas; to require states or local communities, as a condition of future federal financial assistance, to participate in the flood insurance program and to adopt adequate flood plain ordinances with effective enforcement provisions consistent with federal standards to reduce or avoid future flood losses; and to require the purchase of flood insurance by property owners who are being assisted by federal programs or by federally supervised, regulated, or insured agencies or institutions in the acquisition or improvement of land or facilities located or to be located in identified areas having special flood hazards.”

The National Flood Insurance Act of 1968 implemented the National Flood Insurance Program (NFIP), and The Flood Disaster Protection Act of 1973 made the purchase of flood insurance mandatory for property owners within a Special Flood Hazard Area (SFHA).

Since the passage of the 1968 and 1973 acts, several laws have been passed that have revised or amended the NFIP (FEMA, 2015). These laws include:

- The National Flood Insurance Act of 1994 – strengthened mandatory purchase requirements, created mitigation insurance, and developed a mitigation assistance program.
- The Flood Insurance Reform Act of 2004 – focused on reducing losses to properties for which repetitive flood insurance claim payments have been made.
- The Biggert-Waters Flood Insurance Reform Act of 2012 – authorized and funded the national mapping program and implemented NFIP rate increases by removing subsidies.
- The Consolidated Appropriations Act of 2014 – prohibited implementation of certain rate increases under the Biggert-Waters Act.
- Homeowner Flood Insurance Affordability Act of 2014 – repealed portions of the Biggert-Waters Act, restored grandfathering, put limits on certain rate increases, and applied an annual surcharge to all policyholders to ensure the financial health of the NFIP.

##### ***44 CFR §65.10 – Mapping of areas protected by levee systems***

This section describes the type of information FEMA needs to recognize, on NFIP maps, that a levee system provides protection from the base flood. For levees to be recognized by FEMA, evidence that

adequate design and operation and maintenance systems are in place to provide reasonable assurance that protection from the base flood exists must be provided. Design criteria include requirements for freeboard, closures, embankment protection, embankment and foundation stability, settlement, interior drainage, and other design criteria. Operation plans and criteria include requirements for closures, interior drainage systems, and other operation plans and criteria. This section also includes requirements for maintenance plans and criteria and certification requirements.

### ***Section 10 of the Rivers and Harbors Act of 1899, 33 U.S.C. 403***

This act requires a permit from the U.S. Army Corps of Engineers (USACE) for any project that would excavate or fill, or in any manner alter or modify the course, location, condition, or capacity of the channel of any navigable water of the United States, unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of the Army prior to the beginning the same.

### ***Clean Water Act***

The Clean Water Act (CWA) (33 U.S.C. Section 1251 *et. seq.*, formerly the Federal Water Pollution Control Act of 1972) was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). NPDES permitting authority is administered by the California State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCB). The proposed Project is within areas administered by the LARWQCB.

The SCR-3 Project would be required to obtain NPDES coverage under the California General Permit for Discharges of Storm Water Associated with Construction Activity. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) describing Best Management Practices (BMPs) the discharger would use to prevent and retain stormwater runoff. The SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a waterbody listed on the 303(d) list for sediment.

Section 401 of the CWA requires that any activity which may result in a discharge into waters of the U.S. be certified by the RWQCB. This certification ensures that the proposed activity does not violate State and/or federal water quality standards. The proposed Project could result in discharges to waters of the U.S., and would likely require Section 401 certification.

Section 404 of the CWA authorizes the USACE to regulate the discharge of dredged or fill material to the waters of the U.S. and adjacent wetlands. Discharges to waters of the U.S. must be avoided where possible, and minimized and mitigated where avoidance is not possible. The proposed Project would be along the south bank of the Santa Clara River, which is a jurisdictional water of the United States.

### ***Executive Orders 11988 and 13690***

Executive Order 11988 requires a federal agency, when taking an action, to avoid short- and long-term adverse effects associated with the occupancy and the modification of a floodplain, and to avoid direct and indirect support of floodplain development whenever there is a reasonable and feasible alternative. In accomplishing this objective, "each agency shall provide leadership and shall take action

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to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by flood plains in carrying out its responsibilities.” Executive Order 13690 revises Executive Order 11988 and includes more protective standards for floodplain protection. Although the proposed Project is not a federally owned or operated levee, these executive orders would apply to the SCR-3 Project because the issuance of a CWA Section 404 permit by the USACE would qualify as a federal action under these orders.

#### 3.8.2.2 State

##### ***Porter-Cologne Water Quality Control Act***

The Porter Cologne Water Quality Control Act of 1967, Water Code Section 13000 *et. seq.*, requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect State waters. These criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. The criteria for the SCR-3 Project area are contained in the Water Quality Control Plan for the Los Angeles Region (LARWQCB, 1994). Constraints in the water quality control plans relative to the proposed Project relate primarily to the avoidance of altering the sediment discharge rate of surface waters, and the avoidance of introducing toxic pollutants to the water resource. A primary focus of water quality control plans is to protect designated beneficial uses of waters. In addition, anyone proposing to discharge waste that could affect the quality of the waters of the state must make a report of the waste discharge to the Regional Water Board or State Water Board as appropriate, in compliance with Porter-Cologne.

##### ***California Streambed Alteration Agreement***

Sections 1600–1616 of the California Fish and Game Code require that any public utility (or other entity) that proposes an activity that would substantially divert or obstruct the natural flow of any river, stream or lake; substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or, deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, must notify the California Department of Fish and Wildlife (CDFW). If the CDFW determines the alteration may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement would be prepared. The Agreement includes conditions necessary to protect those resources. The Agreement applies to any stream including ephemeral streams and desert washes.

#### 3.8.2.3 Local

##### ***Ventura County General Plan – Goals, Policies & Programs*** (Ventura County, 2015)

###### Goals

2.10.1-1 Minimize the risk of loss of life, injury, damage to property, and economic and social dislocations resulting from flood hazards.

2.10.1-2 Design and construct appropriate surface drainage and flood control facilities as funding permits.

4.6.1 Provide adequate and appropriate flood control and drainage facilities to protect life and property from damage or destruction from flood and storm waters.

### Policies

2.10.2-2 Within areas subject to flooding as determined by FEMA on the latest available DFIRMs, the County shall require the recordation of a Notice of Flood Hazard or dedication of a flowage easement with the County Recorder for all divisions of land and discretionary permits.

2.10.2-4 The design of any structures which are constructed in floodplain areas as depicted on the Hazards Protection Maps shall be governed by Federal regulations, specifically Title 44 Code of Federal Regulations Sections 59 through 70, as well as the County Floodplain Management Ordinance and shall incorporate measures to reduce flood damage to the structure and to eliminate any increased potential flood hazard in the general area due to such construction.

4.6.2-1 All necessary flood control and drainage facilities shall be constructed to meet the minimum standards of the Public Works Agency (PWA) and VCWPD consistent with the goals, policies, and programs of the General Plan.

4.6.2-2 Discretionary development shall be conditioned to provide flood control and drainage facilities deemed by the PWA and VCWPD as necessary for the development, and shall be required to contribute toward flood control facilities necessitated by cumulative development.

### Programs

2.10.3-3 The floodplain limits will be reviewed annually, as required by Government Code Sec. 65302(a), by the Public Works Agency. All changes will be conveyed to the Planning Division, which will process an amendment to the Hazards Protection Maps.

4.6.3 The VCWPD will periodically update the Comprehensive Plan for Flood Control

### ***Ventura County Flood Plain Management Ordinance No. 3841, as amended***

The purpose of this ordinance is to promote public health, safety, and general welfare, and to minimize public and private losses due to flood conditions by prohibiting certain uses within the floodplain, by requiring that structures are protected against flood damage at the time of initial construction, by controlling the alteration of the natural floodplain, and by preventing or regulating the construction of flood barriers which would unnaturally divert flood waters or which may increase flood hazards in other areas.

### ***City of Oxnard General Plan – Goals & Policies***

#### *Infrastructure and Community Services*

Goal ICS-13: Stormwater Drainage: Adequately sized storm drain systems and discharge treatment, certified levees, and implementation of appropriate NPDES permits and regulations.

- ICS-13.1, 100-year Floodplain: Discourage development, major infill, and structural improvements (except for flood control purposes) within the 100-year floodplain as required by FEMA.
- ICS-13.5, FEMA-Certified Levees: Work expeditiously with County, State, and Federal agencies and the private sector to achieve full certification of Santa Clara River Levees that impact Oxnard and the Planning Area.

#### *Safety & Hazards*

Goal SH-3: New Development Mitigations: New development required to take necessary precautions prior to any construction to mitigate hazards and protect the health and safety of the inhabitants.

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- SH-3.1, Location of New Development: Encourage new development to avoid areas with high geologic, tsunami, flood, beach erosion, and fire or airport hazard potential.
- SH-3.2, New Development Flood Mitigation: As a condition of approval, continue to require new development to mitigate flooding problems identified by the NFIP and/or other expert information.
- SH-3.3, Updating Flood Insurance Rate Maps: Continue to provide information to FEMA to ensure that FIRMs are updated periodically.
- SH-3.4, Avoiding Blockage of Natural Drainage: Continue to review development proposals to ensure that the capacity or ability of natural drainage is not impacted.

### 3.8.3 Environmental Impacts and Mitigation Measures

Consistent with the requirements of CEQA, the significance of potential impacts is evaluated through the application of the significance criteria described in Section 3.8.3.1. The significance criteria in CEQA Appendix G have been modified based on relevance to the proposed Project and guidance developed by Ventura County. The objective of the flood control and drainage analysis is to identify potential adverse effects and significant impacts on the existing flood control and drainage system within or near the proposed Project area. Appropriate mitigation measures to avoid or minimize impacts are identified. In some cases, compliance with applicable laws and regulations would serve to avoid or minimize potential impacts.

Construction of the proposed Project includes the raising of the existing levee (Reaches 1 and 3), filling of the River Ridge Golf Course swale (Reach 2), and construction of floodwalls (Reach 4). While the construction and operation of these structures is generally expected to improve flood hazard conditions in the area, the SCR-3 Project could result in an increased flood hazard risk for people or structures downstream of the proposed Project. The following discussion provides an overview of the direct and indirect impacts that would result from the construction and operation of the proposed Project.

The proposed Project includes two different options that are analyzed in this EIR. Option 1B, the preferred option, reduces the extent of levee improvements. It includes an earthen raised levee within Reaches 1 and 3, filling of the River Ridge Golf Course Swale in Reach 2 (no levee improvements would occur in Reach 2), and a floodwall along N. Ventura Road within Reach 4. The second option, Option 1A, would include an earthen raised levee within Reaches 1 and 3 and the majority of Reach 2, a floodwall in front of the River Ridge Golf Course maintenance facilities in Reach 2, and a floodwall within the entirety of Reach 4, described above under Option 1B, along N. Ventura Road. Option 1A does not include the filling of the River Ridge Golf Course Swale. For additional details on the proposed Project options refer to Sections 2.5.1 and 2.5.2 of the Project Description (Chapter 2).

#### 3.8.3.1 Criteria for Determining Impact Significance

According to the Ventura County Initial Study Assessment Guidelines, a project would be considered to have a significant impact associated with VCWPD flood control facilities/watercourses if one of the criteria listed below is met during project construction or operation (Ventura County, 2011).

Any project that will, either directly or indirectly, impact flood control facilities and watercourses by obstructing, impairing, diverting, impeding, or altering the characteristics of the flow of water, resulting in exposing adjacent property and the community to increased risk for flood hazards, shall be considered to have a potentially significant impact. Examples are listed below.

- Reducing the capacity of flood control facilities and watercourses. This includes the planting of any vegetation within the watercourse or on the banks thereof.

- Eroding watercourse bed and banks due to high velocities, changes in adjacent land use, encroachments into the channel such as bridges, and loading the top of the channel embankment with structures.
- Deposition of any material of any kind in a watercourse.
- Placement of a structure that encroaches on a flood control facility or that does not have sufficient setback from a watercourse.

### 3.8.3.2 Direct and Indirect Impacts

CEQA defines direct impacts as those impacts that result from a project and occur at the same time and place. Examples include but are not limited to the placement of a structure in a watercourse such that the natural drainage would be blocked or the deposition of material of any kind in a watercourse. Indirect impacts are caused by a project, but can occur later in time or are farther removed in distance while still reasonably foreseeable and related to the project. Potential impacts are categorized as temporary or permanent. Temporary impacts could include short-term reductions in drainage or flood control capacity. Permanent impacts could include long-term changes to the flooding patterns of an area or long-term changes to the FEMA flood hazard classification of areas within, adjacent to, or downstream of a project.

### Exposure of Property and the Community to Increased Flood Hazard Risks

***Impact FC-1: The Project may result in an increase in the base flood elevation for areas across from or downstream of the proposed levee improvements.***

#### *Option 1B – Minimum Levee System (Preferred) with Reach 4 Floodwall*

This option reduces the amount and extent of levee improvements compared to Option 1A. Existing high ground in the proposed Project area would be incorporated into the proposed system of levee improvements under this option, which would eliminate the need to improve the existing levee in Reach 2. Instead, the drainage swale associated with the River Ridge Golf Course would be filled in to close a potential path for floodwater to escape the Santa Clara River and affect residential areas south of the golf course. Within Reaches 1 and 3, the existing levees would be raised through partial excavation of the existing material and the placement of new fill material, including soil and riprap. Interior drainage systems would be improved through the installation of one-way gates at the openings of storm drain outlets within the SCR-3 levee system. Within Reach 4 (the most upstream reach of the proposed Project), a new floodwall would be constructed to provide flood protection for properties downstream of the UPRR and southeast of the Santa Clara River. The levee and flood protection facility improvements described above would be implemented to achieve FEMA certification under 44 CFR §65.10 for protection from the one percent annual chance flood event.

The existing levee system was previously certified by FEMA as providing adequate protection from the one percent annual chance flood event (VCWPD, 2014). In 2008, FEMA released a Preliminary DFIRM that showed approximately 1,800 parcels in the northern portion of the City of Oxnard as being located within a Special Flood Hazard Area (SFHA) – Zone A (subject to the one percent annual chance flood event). In 2010, FEMA published Effective DFIRM panels for Ventura County that also showed those City of Oxnard parcels as being located within SFHA Zone A. One day after publishing the Effective DFIRMs, the agency issued a Letter of Map Revision (LOMR) and Revised Mapping Panel No. 905 that showed the City of Oxnard parcels as being located within SFHA Zone X – Shaded. SFHA Zone X (Shaded) represents areas with a moderate risk of flooding that are outside of the one percent annual chance

flood hazard zone but inside the 0.2 percent annual chance flood hazard zone (also known as the 500-year floodplain). This revision effectively reverted back to the previously effective FIRM that was based on 1985 data and analyses (VCWPD, 2014). The purpose of this map revision was to prevent delays in releasing updated digital flood maps for Ventura County as a whole while improvements to the SCR-3 levee system are developed and implemented. Currently, property owners within areas designated as SFHA Zone X (Shaded) are not required to purchase flood insurance. If the SCR-3 Project is not implemented, it is expected that portions of the City of Oxnard will be reclassified as SFHA Zone A, and residents with federally-backed mortgages would be required to purchase flood insurance. The number of structures that are currently located within the one percent annual chance (100-year) floodplain protected by the SCR-3 levee system is estimated at approximately 3,800 (Tetra Tech, 2014).

Option 1B is designed and engineered to achieve FEMA certification under 44 CFR §65.10 for protection from the one percent annual chance flood event. The VCWPD will submit to FEMA a Conditional Letter of Map Revision (CLOMR), which will provide a preliminary request for revision of the effective NFIP map, along with evidence of adequate design and operation and maintenance systems that can provide protection from the base flood. Although construction and operation of the proposed Project would obstruct, divert, and alter the flow of water, these changes to the existing drainage pattern are designed to protect people and property in the northern portion of the City of Oxnard from injury and loss of life or property associated with the one percent annual chance flood event. If improperly designed, engineered, or constructed, the proposed improvements to the SCR-3 levee system could result in the exposure of adjacent property and the community to increased risk for flood hazards. However, compliance with the FEMA design, operation, and maintenance standards that are detailed in 44 CFR §65.10 would ensure that the proposed Project would provide the intended level of protection from flood hazards. Therefore, construction and operation of the proposed Project would represent a benefit for portions of the City of Oxnard that are currently at risk of inundation by the one percent annual chance flood event.

Construction and operation of the proposed Project could indirectly expose downstream and cross-river properties and communities to increased risk for flood hazards. Although the SCR-3 Project would be designed and constructed to protect portions of the City of Oxnard from the one percent annual chance flood event, the obstruction, diversion, and alteration of the flow of water in the Santa Clara River could result in increased flood hazard risks for people and properties north of the river (across from the levee improvements) as well as for people and properties downstream of the proposed Project during larger storms generating a higher water surface elevation in the Santa Clara River than the current top of levee; no change would occur during storms with a water surface elevation lower than the current top of levee. Most of the land across from and downstream of the SCR-3 Project is occupied by agricultural uses, open space, and golf courses. However, some scattered commercial and residential properties are located across from and downstream of the proposed levee improvements. The proposed Project improvements may result in an increase in the base flood elevation for areas across from or downstream of the proposed levee improvements during larger storms as described above. Based on the results of a hydraulic analysis completed by Michael Baker International (MBI), which is provided as Appendix E, the increased flood hazard risk for properties outside of the Project area would be minor. The downstream base flood elevation for the one percent annual chance storm would increase by 0.07 foot or less, and no additional people or structures would be exposed to injury or loss of property or life based on the proposed levee improvements (MBI, 2015).

Based on the analysis provided above for construction and operation of the proposed Project (Option 1B), the direct and indirect impacts related to flood control and drainage would not be significant and no mitigation is required (Class III).

#### *Option 1A – Full Levee System with Reach 4 Floodwall*

This option would provide for continuous flood protection (a raised earthen levee on top of the existing levee and floodwalls in certain locations) for the full limits of the Project improvements. Construction activities would be more extensive than under Option 1B. This option is also designed to achieve FEMA certification under 44 CFR §65.10 for protection from the one percent annual chance flood event. The same portions of the City of Oxnard that would be protected under Option 1B would also be protected under this option. In addition, this option would provide protection from the one percent annual chance flood event for the VRSD flare, the City of Oxnard River Ridge Golf Course maintenance yard, and the existing closed landfills located immediately adjacent to SCR-3. As in Option 1B, compliance with the FEMA design, operation, and maintenance standards that are detailed in 44 CFR §65.10 would ensure that this option would provide the intended level of protection from flood hazards. Therefore, construction and operation of Option 1A would represent a benefit for portions of the City of Oxnard that are currently at risk of inundation by the one percent annual chance flood event.

Similar to Option 1B, this option could indirectly result in increased flood hazard risks for people and properties north of the river (across from the levee improvements) as well as for people and properties downstream of the proposed Project during larger storms generating a higher water surface elevation in the Santa Clara River than the current top of levee; no change would occur during storms with a water surface elevation lower than the current top of levee. Some scattered commercial and residential properties are located across from and downstream of the proposed levee improvements. The Option 1A improvements may result in an increase in the base flood elevation for areas across from or downstream of the proposed levee improvements during larger storms as described above. Based on the results of a hydrologic analysis completed by MBI, the increased flood hazard risk under Option 1A for properties outside of the Project area would be minor (MBI, 2015 – Provided as EIR Appendix E). The downstream base flood elevation for the one percent annual chance storm would increase by a maximum of 0.07 foot, and no additional people or structures would be exposed to injury or loss of property or life based on the proposed levee improvements.

Based on the analysis provided above for construction and operation of the proposed Project (Option 1A), the direct and indirect impacts related to flood control and drainage would not be significant and no mitigation is required (Class III).

### **3.8.3.3 Cumulative Impacts**

#### ***Introduction***

The geographic area of analysis for cumulative impacts related to flood control is the current flood zone that would be protected from flooding by the proposed Project, as well as downstream areas affected by the Project.

The area surrounding the proposed Project is characterized as a generally flat, coastal plain. Land use changes, including urbanization, have already and will continue to exert an influence on the hydrologic regime of the Santa Clara River watershed. Urbanization has resulted in changes in the regional hydrology, including wildfire suppression, increased impermeability, and flood plain constriction due to levees. These changes have contributed to increased flood depths within the Project area.

**Project Contribution to Cumulative Impacts**

The proposed Project would reduce flooding hazards for properties in north Oxnard, resulting in a beneficial effect. Other flood control projects are planned, such as the Olivas Drive levee proposed on the north side of the river, which would reduce flood hazards along other portions of the Santa Clara River. Other projects could be planned in the future to address flooding along other reaches of the river or its tributaries. The proposed Project would make a cumulatively considerable contribution to this flood control benefit by implementing improvements that would protect over 3,800 structures in north Oxnard.

As discussed under Impact FC-1 in Section 3.8.2 above, the proposed Project would result in a very small increase in the base flood elevation for areas across from or downstream of SCR-3. The Project would not affect base flood elevations upstream. This effect does not increase the number of properties or structures subject to flooding and the increase in base flood elevation would be taken into consideration if any additional flood control projects are constructed in the future. Therefore, the proposed Project does not make a significant contribution to cumulative flood hazards.

**3.8.3.4 Impact Significance Summary**

Table 3.8-1, below, provides a summary of each identified direct and indirect impact and associated mitigation measures to reduce or avoid the impact, if warranted. Mitigation measures are required for each significant impact, but are not required for impacts that are not significant. Table 3.8-1 also indicates the significance conclusion for each identified impact. For cumulative impacts, the proposed Project’s contribution was determined to result in cumulatively beneficial flood control impacts, and therefore would not result in cumulatively considerable flood hazard impacts.

Impacts	Mitigation Measures	Significance Conclusion
Impact FC-1: The Project may result in an increase in the base flood elevation for areas across from or downstream of the proposed levee improvements.	No mitigation measures are required.	Class III

**Class I: Significant impact; cannot be mitigated to a level that is not significant.** A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.

**Class II: Significant impact; can be mitigated to a level that is not significant.** A Class II impact is a significant adverse effect that can be reduced to a less-than-significant level through the application of feasible mitigation measures presented in this EIR/EIS.

**Class III: Adverse; less than significant.** A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.

**Class IV: Beneficial impact.** A Class IV impact represents a beneficial effect that would result from project implementation.