

# 12

# HYDROLOGY AND WATER QUALITY

The Hydrology and Water Quality chapter of the Environmental Impact Report (EIR) describes existing drainage and water resources for the project site, and evaluates potential impacts of the Bohemia Retail Project (proposed project) with respect to flooding, surface water resources, and groundwater resources. Information for this chapter was drawn from the *Placer County General Plan* (PCGP),<sup>1</sup> the *PCGP EIR*,<sup>2</sup> the *Drainage Study for the Bohemia Retail Project* (Drainage Study) (See Appendix R),<sup>3</sup> and the *Bohemia Subdivision Project EIR* (2006).<sup>4</sup>

Impacts that have already been identified in the Bohemia Retail Initial Study as having *no impact* (violate any potable water quality standards; expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam) or impacts with *less-than-significant* levels (substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lessening of local groundwater supplies [i.e. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted]) are not further addressed within this chapter. The impacts identified as *potentially significant* in the Initial Study are addressed in this chapter.

## 12.1 ENVIRONMENTAL SETTING

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The section below describes the existing hydrological features of the project site and the surrounding region, as well as the water quality of the existing resources in and around the project site.

### Regional Geography and Climate

The project site is located within the Auburn/Bowman Community Plan (ABCP) area within Placer County. The ABCP area encompasses approximately 40 square miles located in the Sierra Nevada foothills. Elevations range from 680 to 2,100 feet above sea level (asl), with the majority of the area around 1,300 feet asl. The drainage pattern of the ABCP area generally slopes east to southwest through one of several regional drainages, including Auburn Ravine, North Ravine, Orr Creek, Dry Creek, and Rock Creek, which lead into the Feather, American, or Sacramento River systems and ultimately out to the San Francisco Bay Delta.

In relation to the project site, the closest rainfall monitoring station is located approximately two miles to the south in Auburn, California. Although rainfall can vary in this region, the average precipitation in the vicinity of the project site is 34 inches, with a 50-year record ranging from 14 to 65 inches. Over 90 percent of the rainfall is concentrated between the months of November and April (wet months).

## **Surface Water Features**

The project site is comprised of four parcels located east of State Route (SR) 49, just north of Luther Road and northeast of the intersection of SR 49 and Hulbert Way. The site does not include any natural streams or water bodies; however, one north-south flowing canal is located on-site and in the vicinity of the site: Fiddler Green Canal (Figure 12-1). A second canal, Wise Canal, is located off-site and is immediately adjacent to the western boundary of the project site (See Figure 12-1). The smaller of the two canals, Fiddler Green Canal, originates approximately three miles north of the project site at Halsey Afterbay and is managed by the Placer County Water Agency (PCWA). Fiddler Green Canal traverses the project site in a north-south direction. Wise Canal is located along the western boundary of the project site and originates at Rock Creek Reservoir, approximately one and a half miles to the north, and is managed by the Pacific Gas & Electric Company (PG&E). Both canal systems serve water transport needs for irrigation and domestic purposes, as well as power generation (PG&E).

## **Infrastructure Improvements**

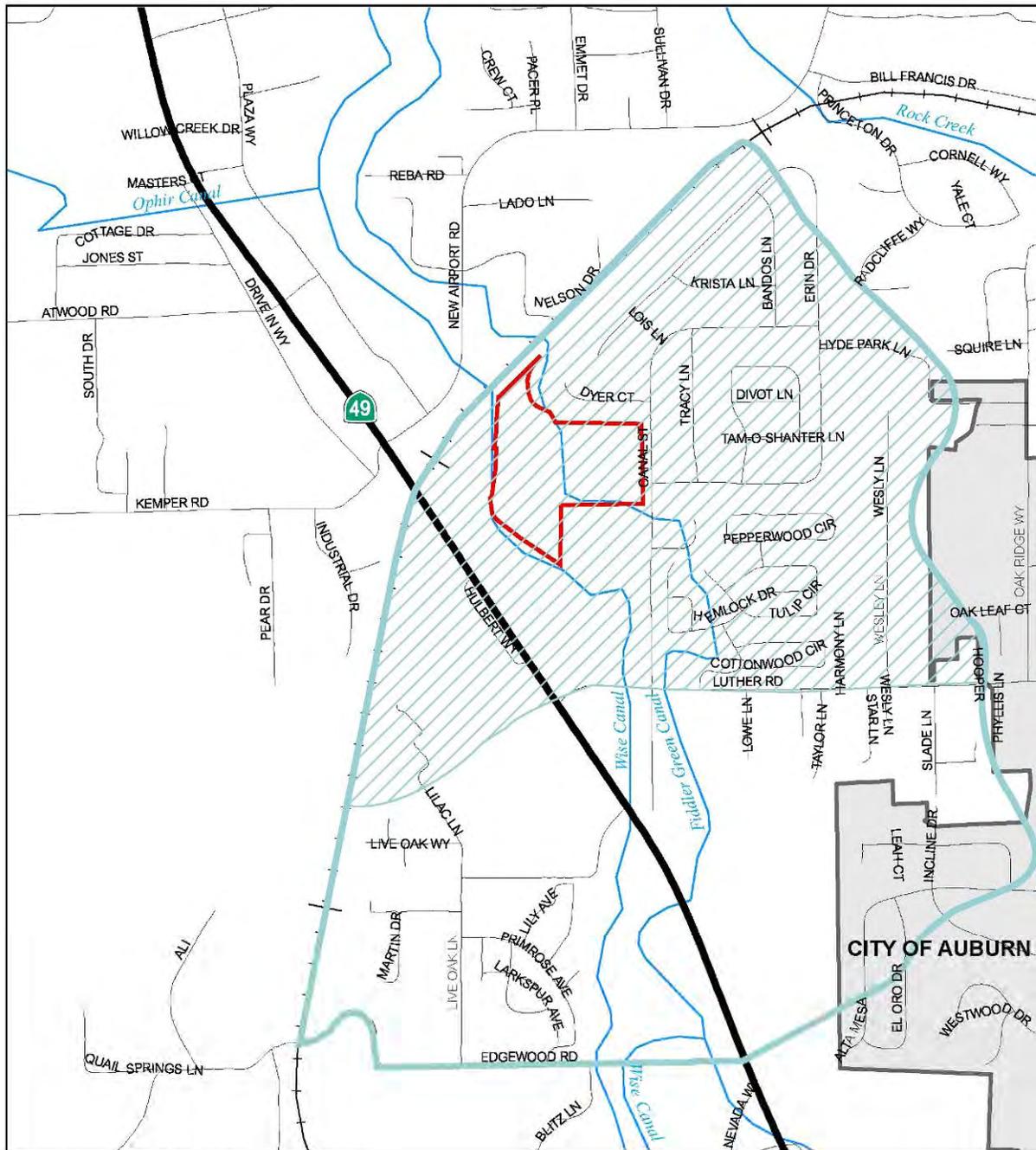
A single on-site bridge crosses over Fiddler Green Canal and two off-site bridges cross over Wise Canal. Plans do not include any improvements to the northernmost bridge over Wise Canal. However, off-site improvements would be incorporated into the southern bridge to be used as the primary access route to the project site. PG&E has ascertained that the infrastructure improvements to the southern bridge across Wise Canal would be categorically excluded from environmental review and this project is proceeding apart from proposed project. As part of the project's storm drain system improvements, a 36-inch stormwater line would cross over Wise Canal approximately 30 feet south of bridge undergoing improvements. Improvements to both the bridge and the stormwater line require the review and approval from the Federal Energy Regulatory Commission (FERC) prior to certification of the EIR.

## **Local Drainage**

The project site is located within the North Ravine watershed. The North Ravine watershed is generally confined by natural terrain features located to the south and east, by SR 49 to the west, and the Union Pacific Railroad (UPRR) tracks to the north. The North Ravine watershed is generally divided by Luther Road, into a north and southern sub-watershed. The entire watershed drains into the North Ravine, which is an intermittent stream located west of the project site.

The on-site drainage characteristics of the project site are generally divided into two separate drainage areas, separated by the Fiddler Green Canal traversing the site. Each sub-drainage area follows the natural topography of the site in a west-southwest direction. Therefore, the portion of the project site located to the east of Fiddler Green Canal drains into the Fiddler Green Canal, with the remainder of the project site draining westward into Wise Canal. Presently, the project site does not contain any barriers to prevent surface runoff into either Fiddler Green Canal or Wise Canal, and PG&E's official policy is to not allow surface runoff to enter Wise Canal.

**Figure 12-1**  
**Study Area Drainage Map**



SOURCE: PSOMAS, Adapted by P&D Consultants, 2005.

- Project Site
- Drainage Shed
- Drainage Area Impacted by Project



## **Stormwater Drainage**

Although the project site was previously developed for lumber mill operations, stormwater drainage systems are not located on-site. However, existing drainage infrastructure is located to the east and west of the project site.

East of the project site, the adjacent residential neighborhood storm drains and detention ponds convey drainage through the neighborhood and ultimately into a box culvert located at the intersection of SR 49 and Luther Road. Two other culverts, located north of SR 49 and Luther Road, serve areas west of the project site. Immediately west of both the project site and SR 49 is a recent commercial development, Auburn Village, which has installed a 36-inch storm drain to collect project drainage. The new storm drain connects to an existing 42-inch storm drain that crosses SR 49, which was originally installed to carry runoff from the commercial development across SR 49. The 42-inch storm drain ultimately connects to a 48-inch and a 54-inch storm drain outlet near SR 49 and Hulbert Way, approximately 600 feet southwest of the project site. Approximately three acres of the commercial developments west of SR 49 drain into these storm systems.

The project site also intercepts approximately 45 acres of residential/storm runoff from existing developments to the north. Runoff is carried westward by gutter flow in a runoff ditch located along the UPRR tracks. Prior to entering the project site, a portion of this runoff is diverted across the UPRR tracks by two, 16-inch ductile iron pipes and a single corrugated metal culvert. A previous Memorandum of Understanding (MOU) between the Placer County and Auburn 49 Associates agreed that 18 cubic feet per second (cfs) of drainage from the development east of Canal Street would be diverted through the subject property.

## **Local Flooding**

The topography of the project site is generally flat. Concrete building foundations from previous lumber mill operations are located on the western portion of the project site; the remainder of the site is mostly open areas with non-native annual grasslands bordered by tree outcrops. As discussed in Chapter 11, Soils, Geology, and Seismicity, surface sediments are primarily comprised of Xerothents and Auburn silt loam, which have the characteristics of being well drained, a very low to moderately low potential for water infiltration, and are not prone to ponding or flooding. The Federal Emergency Management Agency (FEMA) prepares Flood Insurance Rate Maps (FIRMs) that estimate the 100-year maximum flood levels within certain areas. According to the FIRMs for Placer County, the project site is located in an area designated as Zone X, which is outside of a 100-year flood event area.

## **Groundwater**

According to the ABCP's Conservation and Open Space Element, the local occurrence of groundwater within the ABCP area is highly variable. Due to the dense nature of the underlying bedrock, the ABCP area does not contain any aquifers. However, groundwater could be located within surface fractures and cracks in the bedrock material. Currently, groundwater wells or monitoring stations are not located on-site. Previous groundwater monitoring studies conducted

for past on-site projects have resulted in detectable groundwater at depths between 4.15 to 11.30 feet.

## **Water Quality**

Water quality information pertaining to the project site and vicinity is primarily limited to groundwater. As expressed in the 1991 groundwater monitoring report prepared for the 1993 Bohemia Walmart EIR, groundwater in the vicinity of the proposed project was previously identified in 1991 as having noticeable diesel odors that escaped from the purge waters from three monitoring wells. However, a subsequent report prepared in 1992 did not indicate the presence of diesel odors being emitted from the remaining monitoring wells. A total of two Phase I Environmental Site Assessments (ESAs) and a Phase II Site Investigation have been prepared for the area containing the project site, the most recent report being the Phase II Investigation prepared in 2006 (See Appendix Q).

The 2006 investigation included limited soil sampling to determine if on-site soils had been impacted from previous land uses associated with the Bohemia Lumber Mill operations. The soil samples were analyzed for all constituents relevant to lumber mill operations including total petroleum hydrocarbons, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and CAM-17 metals that include arsenic and mercury. The results of the Phase II analysis did not identify any detectable levels of VOCs, SVOCs, PCBs, or total petroleum hydrocarbons for both gasoline and diesel. The Phase II report did indicate varying levels of metals within the collected soil samples, but does not pose a risk to human health or to water quality. At that time, the Regional Water Quality Control Board (RWQCB) determined that no further monitoring was required and the groundwater monitoring stations were later removed (See Appendix Q).

## **12.2 REGULATORY SETTING**

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The following is a description of federal, State, and local environmental laws and policies that are relevant to the review of hydrology and water quality under the California Environmental Quality Act (CEQA) process.

### **Federal**

#### Federal Emergency Management Agency (FEMA)

The Federal Emergency Management Agency (FEMA) is responsible for determining flood elevations and floodplain boundaries based on U.S. Army Corps of Engineers (USACE) studies. FEMA is also responsible for distributing the Flood Insurance Rate Maps (FIRMS), which are used in the National Flood Insurance Program (NFIP). These maps identify the locations of special flood hazard areas, including the 100-year floodplains.

FEMA allows non-residential development in the floodplain; however, construction activities are restricted within the flood hazard areas, depending upon the potential for flooding within each area. Federal regulations governing development in a floodplain are set forth in Title 44, Part 60

of the Code of Federal Regulations (CFR). These standards are implemented at the State level through construction codes and local ordinances; however, these regulations only apply to residential and non-residential structure improvements. Although roadway construction or modification is not explicitly addressed in the FEMA regulations, the California Department of Transportation (Caltrans) has also adopted criteria and standards for roadway drainage systems and projects situated within designated floodplains. Standards that apply to floodplain issues are based on federal regulations (Title 23, Part 650 of the CFR). At the State level, roadway design must comply with drainage standards included in Chapters 800-890 of the Caltrans Highway Design Manual.

CFR Section 60.3(c)(10) restricts cumulative development from increasing the water surface elevation of the base flood by more than one foot within the floodplain.

### Federal Clean Water Act

The National Pollutant Discharge Elimination System (NPDES) permit system was established in the federal Clean Water Act (CWA) to regulate municipal and industrial discharges to surface waters of the U.S. Each NPDES permit contains 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. Section 307 of the CWA describes the factors that EPA must consider in setting effluent limits for priority pollutants.

Nonpoint sources are diffuse and originate over a wide area rather than from a definable point. Nonpoint pollution often enters receiving water in the form of surface runoff, but is not conveyed by way of pipelines or discrete conveyances. As defined in the federal regulations, such nonpoint sources are generally exempt from federal NPDES permit program requirements.

However, two types of nonpoint source discharges are controlled by the NPDES program: nonpoint source discharge caused by general construction activities, and the general quality of stormwater in municipal stormwater systems. The 1987 amendments to the CWA directed the federal EPA to implement the stormwater program in two phases. Phase I addressed discharges from large (population 250,000 or above) and medium (population 100,000 to 250,000) municipalities and certain industrial activities. Phase II addresses all other discharges defined by EPA that are not included in Phase I.

### *Construction Site Runoff Management*

In accordance with NPDES regulations, in order to minimize the potential effects of construction runoff on receiving water quality, the State requires that any construction activity affecting one (1) acre or more must obtain a General Construction Activity Stormwater Permit. Permit applicants are required to prepare a Stormwater Pollution Prevention Plan (SWPPP) and implement Best Management Practices (BMPs) to reduce construction effects on receiving water quality by implementing erosion and sediment control measures. BMPs must be designed to mitigate (minimize, filter, or treat) stormwater runoff in accordance with "Attachment 4" of Placer County's NPDES Municipal Stormwater Permit.

## State

### State Water Resources Control Board

The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Board (RWQCB) are responsible for ensuring implementation and compliance with the provisions of the federal CWA and California's Porter-Cologne Water Quality Control Act. As discussed above in the water quality discussion, the project site is situated within the jurisdiction of the Central Valley Region of the RWQCB (Region 5). The CVRWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within the CVRWQCB's jurisdiction.

Water quality objectives for the waterways within the CVRWQCB are specified in the Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basin (Basin Plan), which was prepared in compliance with the federal CWA and the Porter-Cologne Act. The Basin Plan establishes water quality objectives, and implementation programs to meet stated objectives and to protect the beneficial uses of water in the Sacramento-San Joaquin River Basin. Because the project site is located within the CVRWQCB's jurisdiction, all discharges to surface water or groundwater are subject to the Basin Plan requirements.

## Local

The following are the local government environmental goals and policies relevant to the CEQA review process pertaining to the hydrology aspects of the proposed project.

### Auburn/Bowman Community Plan

The following goals and policies of the ABCP are applicable to the hydrology and water quality resources of the proposed project.

#### *Environmental Resources Element*

##### Hydrology

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|--------|---|
| Goal 1 | Conserve and enhance, and protect from degradation, surface and ground water supplies and adequately plan for the development and protection of these resources for future generations. |
| Goal 2 | Safeguard and maintain natural waterways to ensure water quality, flora and fauna species diversity and unique wildlife habitat preservation.   |
| Goal 3 | Reduce flood hazards both on-site and downstream.   |
| Goal 4 | Reduce potential for loss of life and damage to property resulting from current floodway deficiencies.  |

- Goal 5 Educate the public regarding the potential impacts of their actions on drainage, flooding and water quality.
- Policy 1 Improve water quality by eliminating existing water pollution sources and by discouraging activities which include the use of hazardous materials around wetland and groundwater recharge areas.
- Policy 6 Promote water conservation through development standards, building requirements, landscape design guidelines, and other applicable policies and programs.
- Policy 12 Establish special procedures (including setbacks, etc.) for land use, building locations, grading operations, and vegetation removal adjacent to all drainage ways, canals, and significant water features.
- Policy 15 Continue to implement and enforce the Grading Ordinance and Flood Damage Prevention Ordinance.
- Policy 16 Ensure that new development storm drainage systems are designed in conformance with the Placer County Flood Control and Water Conservation District's "Stormwater Management Manual" and the Placer County "Land Development Manual."
- Policy 17 Require new development to detain increases in peak stormwater runoff, or to pay appropriate in-lieu fees for compensating improvements, in all areas recommended for local detention in the "ABCP Hydrology Study" (Appendix D of the ABCP's Background Report).
- Policy 18 Reduce the negative impacts on water quality resulting from urban runoff for all commercial, industrial, and residential projects by treating such runoff before it enters intermittent or permanent streams. All feasible mitigation measures should be considered, including, but not limited to, artificial wetlands, infiltration/sedimentation basins, riparian setbacks, oil/grit separators, wet scrubbing or parking areas with a scrubbing/vacuum machine and proper wash water disposal, or other effective BMPs, where appropriate.
- Policy 19 The community's canal systems should be protected from excessive contamination resulting from spillage or runoff of impurities originating from land development projects.

- Policy 21      Require fencing of canals wherever lot size is between 2.3 and 4.6 acres, and on a case-by-case basis as determined by the entity responsible for the canal.
- Policy 22      Require that each new development project potentially affecting a canal must provide proper protection to that canal as part of the development review committee (DRC) review of the project. Require that DRC coordinate its requirements with the entity responsible for the canal.
- Policy 23      Evaluate potential flood hazards in an area prior to the approval of future development projects.
- Policy 24      New construction (i.e., structures requiring building permits) should not be permitted within 100 feet of the centerline or permanent streams, within 50 feet of the centerlines of intermittent streams, or within the future (fully developed) 100-year floodplain, whichever is greater. Where floodplain information does not exist, require determination of this information by the project proponent prior to issuance of development permits.
- Policy 26      Assure that new development conforms with the adopted programs, recommendations, and plans of the Placer County Flood Control and Water Conservation District.

### Placer County Flood Control and Water Conservation District

Formed by Senate Bill 1312, the Placer County Flood Control and Water Conservation District (PCFCWCD) is responsible for regional strategies for flood control management. A Stormwater Management Manual (SWMM) was developed by the PCFCWCD to relate the policies, guidelines, and specific criteria for evaluating hydrologic conditions associated with new development projects.

## **12.3 IMPACTS AND MITIGATION MEASURES**

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### **Standards of Significance**

An impact is considered significant, as identified by Appendix G of the State CEQA Guidelines and by Placer County, if the proposed project would result in any of the following:

- Substantially alter the existing drainage pattern of the site of area;
- Increase the rate or amount of surface runoff;
- Create or contribute runoff water which would include substantial additional sources of polluted water;

- Otherwise substantially degrade surface water and/or groundwater quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard boundary or Flood Insurance Rate Map (FIRM);
- Place within a 100-year flood hazard area improvements which would impede or redirect flood flows;
- Alter the direction or rate of flow of groundwater; or
- Impact the watershed of important surface water resources, including but not limited to Lake Tahoe, Folsom Lake, Hell Hole Reservoir, Rock Creek Reservoir, Sugar Pine Reservoir, French Meadows Reservoir, Combie Lake, and Rollins Lake.

## Methods of Analysis

The information contained in the Hydrology and Water Quality chapter of this EIR was derived primarily from the PCGP, the PCGP EIR, and the results of the Drainage Study. Determinations of significance were made based on the existing, or planned, infrastructure's ability to accommodate the proposed project.

As stated earlier, impacts identified as *potentially significant* within the Initial Study are addressed below. All other impacts listed in the Standards of Significance above have already been addressed in the Initial Study and have been identified as having *no impact* or a *less-than-significant* impact.

## Project Impacts and Mitigation Measures

### 12-1 Project impacts to the existing drainage pattern and surface runoff.

The proposed project would increase the amount of on-site impervious surfaces from current conditions. Project development would include the construction of a single-tenant, 155,000-sf retail building, a fueling station, and associated parking and landscaped areas. As previously described, the general topography of the site descends from the east to the southwest.

Currently, the project site intercepts approximately 45 acres of residential runoff from the existing residential development to the north. Runoff from these areas is transported via a ditch that parallels the UPRR tracks north of the site. Prior to entering the project site, a portion of this flow is diverted across the UPRR tracks by two, 16-inch pipes and a single culvert. A previous MOU between the Placer County and "Auburn 49 Associates" establishes that an additional 18 cfs of drainage, originating from the development east of the Canal Street, would be diverted through the project site.

The project site is located upstream from three recent development projects that had accounted for the future development of the Bohemia Retail site. The Plaza, which is the recently completed retail project located immediately southwest of the project site (near the project's Primary Access), included the installation of a 36-inch storm drain, which connects to an existing 42-inch storm drain that crosses SR 49 just west of the project

site. The 42-inch storm drain was specifically installed to transport drainage from the project site across SR 49 and ultimately connect to an existing 48-inch and 54-inch storm drain outlets, located approximately 600 feet southwest of the project site.

Implementation of the project would substantially increase the amount of impervious surfaces on-site (retail building, fuel station, and parking areas). Fiddler Green Canal would be re-routed into a submerged pipeline that would mirror the proposed retail stores northern and eastern perimeter lines before exiting into an existing culvert beneath Canal Street (near the southeast corner of the project site). The size of the submerged canal pipeline would be designed to accommodate the peak water flow found within Fiddler Green Canal.

Due to size limitations of the site, project designs include an underground storage basin to accommodate the required detention volume of the on-site drainage. It should be noted that 18 cfs of off-site runoff would be diverted through the project site, but the proposed underground storage basin would not need to accommodate the off-site runoff. Approximately 2,200 linear feet of 60-inch diameter pipe would be placed underneath two areas of the parking lot located in the western area of the site. Once collected, the excess of runoff would be restricted by smaller pipes for the more common storm events, while larger pipes would be utilized for larger storm events (greater flows). Flows would be transported across Wise Canal via a 36-inch storm drain pipe and connect to the aforementioned 42-inch pipe that crosses SR 49 and into the existing Auburn Village storm drain described above.

A preliminary drainage study was prepared for the proposed project to evaluate the potential impacts related to the grading and installation of the impervious surfaces. Per expanded Placer County requirements, the preliminary drainage study included a comparison of peak design storm flows for two-, 10-, and 100-year events between existing conditions and the proposed project with an on-site detention basin. Based on the results of analysis within the preliminary drainage report, the project site has the capacity to implement the on-site underground detention basin and that the downstream drainage system has been designed to accept future stormwater runoff volumes from the proposed project. However, a detailed analysis of the proposed stormdrain system has not been prepared to date and final construction designs for the on-site underground piping of Fiddler Green Canal have not been provided; therefore, the proposed project would result in ***potentially significant*** impacts to existing drainage patterns and future runoff volume.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

- 12-1(a) *Prepare and submit with the project Improvement Plans, a drainage report in conformance with the requirements of Section 5 of the LDM and the Placer County Storm Water Management Manual that are in effect at the time of submittal, to the Engineering and Surveying Department for review and approval. The report shall be prepared by a Registered Civil*

*Engineer and shall, at a minimum, include: A written text addressing existing conditions, the effects of the improvements, all appropriate calculations, a watershed map, increases in downstream flows, proposed on- and off-site improvements and drainage easements to accommodate flows from this project. The report shall identify water quality protection features and methods to be used both during construction and for long-term post-construction water quality protection. "Best Management Practice" (BMP) measures shall be provided to reduce erosion, water quality degradation, and prevent the discharge of pollutants to stormwater to the maximum extent practicable.*

- 12-1(b) *Water quality Best Management Practices (BMPs) shall be designed according to the California Stormwater Quality Association Stormwater Best Management Practice Handbooks for Construction, for New Development / Redevelopment, and/or for Industrial and Commercial, (and/or other similar source as approved by the Engineering and Surveying Department (ESD)).*

*Storm drainage from on- and off-site impervious surfaces (including roads) shall be collected and routed through specially designed catch basins, vegetated swales, vaults, infiltration basins, water quality basins, filters, etc. for entrapment of sediment, debris and oils/greases or other identified pollutants, as approved by the ESD. BMPs shall be designed at a minimum in accordance with the Placer County Guidance Document for Volume and Flow-Based Sizing of Permanent Post-Construction Best Management Practices for Stormwater Quality Protection. Post-development (permanent) BMPs for the project include, but are not limited to, the following: water quality vaults. No water quality facility construction shall be permitted within any identified wetlands area, floodplain, or right-of-way, except as authorized by project approvals.*

*All BMPs shall be maintained as required to ensure effectiveness. The applicant shall provide for the establishment of vegetation, where specified, by means of proper irrigation. Maintenance of these facilities shall be provided by the project owners/permittees.*

- 12-1(c) *This project is located within the area covered by Placer County's municipal stormwater quality permit, pursuant to the National Pollutant Discharge Elimination System (NPDES) Phase II program. Project-related stormwater discharges are subject to all applicable requirements of said permit. BMPs shall be designed to mitigate (minimize, infiltrate, filter, or treat) stormwater runoff in accordance with "Attachment 4" of Placer County's NPDES Municipal Stormwater Permit (State Water Resources Control Board NPDES General Permit No. CAS000004).*

## 12-2 Construction-related impacts to surface water quality.

Project development would involve the construction of a single retail building, parking lots, gas station, and associated infrastructure, which would require grading, excavation, and other construction-related activities that could cause soil erosion at an accelerated rate during storm events. All of these activities have the potential to affect water quality and contribute to localized violations of water quality standards if stormwater runoff from construction activities enters receiving waters.

Construction activities such as grading, excavation, and trenching for site improvements would result in the disturbance of on-site soils. These exposed soils can affect water quality in two ways. Stormwater runoff from the site may contain suspended soil particles and sediments, or sediments can be transported as dust that eventually reaches local waterbodies, either through direct deposition or as suspended sediment in the runoff in this area. Spills or leaks from heavy equipment and machinery, staging areas, or building sites could also enter runoff. Typical pollutants could include, but not be limited to, petroleum products and heavy metals from equipment and products such as paints, solvents, and cleaning agents, which could contain hazardous constituents. Sediment from erosion of graded or excavated surface materials, leaks or spills from equipment, or inadvertent releases of building products could result in water quality degradation if runoff containing the sediment or contaminants entered receiving waters in sufficient quantities to exceed water quality objectives. Impacts from construction-related activities would generally be short-term and of limited duration.

As the proposed project would require construction activities that would result in a land disturbance greater than one acre, the applicant would be required by the State to obtain the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit), which pertains to pollution from grading and project construction. Compliance with the Permit requires the project applicant to file a Notice of Intent (NOI) with the SWRCB and prepare a Storm Water Pollution Prevention Plan (SWPPP) prior to construction. The SWPPP would incorporate Best Management Practices (BMPs) in order to prevent, or reduce to the greatest feasible extent, adverse impacts to water quality from erosion and sedimentation. In addition, treatment of stormwater runoff would be addressed in a variety of ways. Generally, most of the runoff from the proposed parking lot will be collected in a storm drain system and routed through proprietary systems for treatment in one or more locations. Perimeter areas of runoff from slopes would be treated via infiltration trenches or vegetative swales. Where possible, areas of detention would be incorporated into the site design, also for use in treatment of runoff. However, as the proposed project could potentially result in short-term impacts to surface water quality, this is considered to be a *potentially significant* impact.

### Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

12-2            *The location, size, and ownership of any canals (Fiddler Green Canal and Wise Canal) on or adjacent to the property shall be described in the drainage report and shown on the Improvement Plans. The applicant shall provide the Engineering and Surveying Department (ESD) with a letter from the agency(s) controlling the canal(s) describing any restrictions, requirements, easements, etc. relative to construction of the project. Said letter shall be provided to the ESD prior to the approval of the Improvement Plans. During construction, drainage from the project site shall not enter the Fiddler Green Canal. Measures such as temporary construction fencing shall be placed around the canal to prevent people, animals and debris from entering the canal during construction. Concurrent with the encasement and realignment of the Fiddler Green Canal, a trash rack and spillway shall be constructed at the upstream end of the canal.*

**12-3 Operational water quality degradation associated with urban runoff from the project site.**

The operation of the proposed project could result in adverse impacts on water quality, through the indirect introduction of non-point source pollutants, which could include, but not be limited to, oils, greases, fertilizers, urban litter, household wastes, and detergents. If introduced to local surface waters, these pollutants could adversely affect local water quality. Potential operational impacts related to the proposed fuel station are addressed in Chapter 14, Hazardous Materials and Hazards of the Draft EIR.

As discussed under Impact Statement 12-2, above, the project applicant would be required to complete and submit an on-site SWPPP for approval. The SWPPP would include BMPs to reduce and/or eliminate the potential for urban runoff pollutants to enter into the local surface waters and degrade the water quality during the operational phase of the proposed project. However, the potential for urban pollutants to enter and potentially pollute the local water systems is a *potentially significant* impact.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

12-3(a)        *All storm drain inlets and catch basins within the project area shall be permanently marked/embossed with prohibitive language such as "No Dumping! Flows to Creek" or other language as approved by the Engineering and Surveying Department and/or graphical icons to discourage illegal dumping. Message details, placement, and locations shall be included on the Improvement Plans. ESD-approved signs and prohibitive language and/or graphical icons, which prohibit illegal dumping, shall be posted at public access points along channels and creeks within the project area. The Property Owners' association is responsible for maintaining the legibility of stamped messages and signs.*

- 12-3(b) *All stormwater runoff shall be diverted around trash storage areas to minimize contact with pollutants. Trash container areas shall be screened or walled to prevent off-site transport of trash by the forces of water or wind. Trash containers shall not be allowed to leak and must remain covered when not in use.*
- 12-3(c) *Materials with the potential to contaminate stormwater that are to be stored outdoors shall be placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the stormwater conveyance system, or protected by secondary containment structures such as berms, dikes, or curbs. The storage area shall be paved to contain leaks and spills and shall have a roof or awning to minimize collection of stormwater within the secondary containment area.*
- 12-3(d) *Loading dock areas shall be covered and run-on and/or runoff of stormwater to the dock area shall be minimized. Direct connections to storm drains from depressed loading docks (truck wells or sumps) are prohibited.*
- 12-3(e) *The fuel dispensing area shall be covered with an overhanging roof structure or canopy. The canopy shall not drain onto the fuel dispensing area, and the canopy downspouts must be routed to prevent drainage across the fueling area. The fuel dispensing area shall be paved with Portland cement concrete and have a minimum 2 percent slope, with separation from the rest of the site by a grade break to prevent runoff of stormwater.*
- 12-3(f) *The following off-site drainage facilities shall be evaluated in the drainage report for condition and capacity and shall be upgraded, replaced, or mitigated as specified by the Engineering and Surveying Department:*
- *The existing downstream 36-inch storm drain system from the point of connection to State Route 49; and*
  - *The existing 42-inch storm drain pipe crossing State Route 49.*
- 12-3(g) *Stormwater runoff shall be reduced to pre-project conditions through the installation of retention/detention facilities. Retention/detention facilities shall be designed in accordance with the requirements of the Placer County Storm Water Management Manual that are in effect at the time of submittal, and to the satisfaction of the Engineering and Surveying Department (ESD). The ESD may, after review of the project drainage report, delete this requirement if it is determined that drainage conditions do not warrant installation of this type of facility. In the event on-site detention requirements are waived, this project may be subject to payment of any in-lieu fees prescribed by County Ordinance. No*

*retention/detention facility construction shall be permitted within any identified wetlands area, floodplain, or right-of-way, except as authorized by project approvals.*

#### **12-4 Impacts to groundwater availability.**

As discussed under Chapter 13, Public Services and Utilities, the proposed project has a water availability letter to obtain water supply from PCWA. The proposed project does not include plans for on-site groundwater wells or the usage of groundwater supplies, nor are there any existing groundwater wells on-site. As stated under the existing setting section above, the ABCP area does not contain aquifers due to the dense nature of the underlying bedrock. As such, the precipitation does not currently reach any aquifer in the region and the increased impervious surfaces associated with the proposed project would not result in significant impacts related to groundwater availability. Furthermore, the limited size and scope of project site, in relation to size of the groundwater basin, would result in negligible impacts to groundwater availability. Therefore, potential impacts to groundwater availability are considered to be *less-than-significant*.

##### Mitigation Measure(s)

*None required.*

#### **12-5 Impacts to groundwater quality.**

In addition to the general construction activities associated with the proposed project, the construction of an on-site fueling station would include extensive excavation and grading for the placement of underground storage tanks. Potential hazards resulting from the development of the fueling station are addressed in Impact 14-1 within Chapter 14, Hazards and Hazardous Materials, of this Draft EIR. As discussed in Impact 14-1, underground storage tank systems are equipped with overfill alarms; however, spills can occur due to alarm malfunction and/or operator error. While this type of release is uncommon due to overfill alarms, it could result in the accidental release of approximately 60 to 100 gallons of fuel to the ground surface. As a project condition of approval, curbing around the perimeter of the fueling station shall be high enough to prevent off-site migration of a surface spill of up to 100 gallons of fuel. In addition, as a project condition of approval, the oil and water separator shall be located and sized such that a surface spill of up to 100 gallons of fuel will be contained on-site and the site shall be sloped such that any accidental release will flow to the oil and water separator. Furthermore, Mitigation Measures 14-1(a) and 14-1(b), which are included in Chapter 14, include requirements for installation and operation of the underground storage tanks, including spill prevention measures.

Previous groundwater monitoring studies conducted for past on-site project proposals have resulted in detectable groundwater at depths of 4.15 feet and 11.30 feet. Construction activities could potentially introduce contaminants into exposed areas of excavation. As discussed under Impact Statement 12-3, development of the proposed project would substantially increase the amount of impervious surfaces on-site, which

would increase stormwater runoff and reduce groundwater recharge rates. As concluded in Impact Statement 12-4, the limited size and scope of the proposed project is not expected to affect groundwater recharge rates. On-site construction activities, including those associated with the fuel pumping station, could potentially introduce contaminants into the local groundwater, thus affecting groundwater quality, which is a *potentially significant* impact.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

12-5            *Implement Mitigation Measures 12-2(a) and 12-3(a) through 12-3(g).*

**12-6 Impacts to important surface water resources (i.e., Lake Tahoe, Folsom Lake, Rock Creek Reservoir, etc.) in watershed.**

The proposed project has been designed to minimize potential impacts to local surface waters by gathering and re-depositing local runoff into the drainage system. Fiddler Green Canal would be submerged into an underground pipeline for the length of the project site. The project site is located within the North Ravine watershed which does not have a direct nexus to important surface water resources identified by Placer County, which includes, but is not limited to, Lake Tahoe, Folsom Lake, Hell Hole Reservoir, Rock Creek Reservoir, Sugar Pine Reservoir, French Meadows Reservoir, Combie Lake, or Rollins Lake. Other watersheds direct surface runoff into these water resources outside of the vicinity of the project site.

Due to the limited size and scope of the proposed project, potential impacts to local surface waters within the watershed are unlikely. As discussed in Impact Statement 12-1, on-site runoff would be collected in the proposed detention facilities underneath the western parking areas of project site where the runoff would be channeled into existing culverts west of SR 49. Project implementation would not impact the overall quantity of water entering surface waters of regional importance. Therefore, development of the proposed project would result in *less-than-significant* impacts related to important local surface water resources.

Mitigation Measure(s)

*None required.*

**Endnotes**

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<sup>1</sup> Placer County. *Countywide General Plan Policy Document*. August 16, 1994.

<sup>2</sup> Placer County. *Countywide General Plan EIR*. October 1993.

<sup>3</sup> Doucet & Associates, Inc. *Drainage Study for Bohemia Retail Project*. January 29, 2009.

<sup>4</sup> P&D Consultants. *Bohemia Subdivision EIR*. November 2006.