

## 4.3 WATER RESOURCES

### 4.3.1 ALTERNATIVE A – PROPOSED PROJECT

#### *SURFACE WATER*

##### *Flooding*

The layout of the hardscape for Alternative A's buildings and structures is designed outside of the 100-year floodplain. Thus, loss of floodplain storage would not occur. The portion of the site within 100-year flood zone would be used for sprayfields and open space. The project would, therefore, be consistent with Federal Executive Order 11988. Though the hardscape would be built outside of the 100-year floodplain, the increase in impervious surfaces would cause increased runoff into the floodplain. The drainage plan incorporates a detention basin that would collect stormwater runoff. Stormwater runoff from hardscape could then be released over time, reducing impacts to downstream flooding. The incorporation of a detention basin ensures that impacts from the project stormwater to downstream flooding are less than significant. In addition, a second detention basin would be added to the southern portion of the site to compensate for the loss of flood storage created by the development of Alternative A facilities in the 500-year floodplain. In fact, given that this southern detention basin was designed to compensate for the development of Alternative B or C in the 100-year floodplain, an increase in flood storage can be expected from the development of the same detention basin for Alternative A, because Alternative A is displacing less flood storage than the alternatives in the 100-year floodplain.

Should on-site wastewater treatment occur, the wastewater treatment plant, seasonal storage ponds, and portions of the spray fields would be located outside of the 100-year floodplain. In addition, the required Clean Water Act National Pollutant Discharge Elimination System (NPDES) permit will not allow discharge of treated wastewater to surface water during a flood event. Sprayfields would be operated to reduce runoff to surface waters and thus, would not be operated during flood events. Thus, the operation of on-site wastewater treatment facilities would not significantly impact flooding.

##### *Construction Impacts*

Project construction would result in ground disturbance that could lead to erosion. Erosion can increase sediment discharge to surface waters during storm events. Project construction also has the potential to generate waste materials (e.g., concrete, drywall, metal and wood from building rubble and diesel, oil and grease from heavy equipment and temporary on-site fuel storage) that can be entrained in surface flow and washed into nearby surface waters during storm events.

Discharges of pollutants to surface waters from construction wastes, fuel spills, and leaks would be a potentially significant impact. Mitigation is discussed in **Section 5.2.2** to reduce any impacts to a less-than-significant level.

### ***Stormwater Runoff***

The expansion of impervious surface areas created by the proposed construction of the casino, hotel and associated parking facilities would generate increased stormwater. On-site stormwater runoff would be diverted into an on-site detention system that would be sized to accommodate excess water draining from impervious surfaces (Robert A. Karn & Associates, Inc., 2006; **Appendix C**). Since the detention basin would be part of the project, the impact of stormwater runoff would be less than significant.

Runoff from surface parking lots and project facilities could impact water quality by flushing debris (trash, oil, sediment, and grease) into area surface waters. Fertilizers and other chemicals used in landscaped areas may also result in impacts to water quality if allowed to enter nearby surface waters. As noted in **Section 2.2.6**, the drainage plan (Robert A. Karn & Associates, Inc., 2006; **Appendix C**) includes the use of several features designed to filter the surface runoff prior to release into the natural drainage channels, including sediment/grease traps. These measures are expected to remove suspended solids such as trash, soil sediment, oil, grease and other potential materials that could degrade surface water quality. Runoff from impervious surfaces and landscaped areas would be directed to the drainage system, which would be protected by the above features and the impact to water quality from stormwater runoff would be less than significant. Mitigation measures have been included in **Section 5.2.2** to further reduce stormwater runoff impacts.

### ***Wastewater***

As described in **Section 2.3.7** and **Appendix D**, wastewater generated from the project's facilities would either be conveyed to the Laguna Subregional Treatment Plant, or be treated to a tertiary level at an on-site wastewater treatment plant (WWTP). While the Laguna WWTP has the capacity for Alternative A's wastewater, it is unclear whether the City of Rohnert Park has sufficient allocation to cover the addition of wastewater from Alternative A. No agreement has been reached for hookup to the Laguna WWTP. Mitigation is included in **Section 5.2.2** to reduce impacts to a less-than-significant level. Title 22 of the California Administrative Code defines the tertiary treatment process as wastewater that has been oxidized, coagulated, clarified, and filtered. If the on-site treatment plant option is operated, the treatment process would be designed to recycle water so that turbidity does not exceed two nephelometric turbidity units (NTUs) on average, does not exceed 5 NTUs more than five percent of the operation time during any 24-hour period, and does not exceed 10 NTUs at any time. Tertiary treated wastewater would comply with the California Department of Health Services' (DHS) regulations under Title 22,

Division 4, Chapter 3, of the California Administrative Code. Project-generated wastewater would meet Title 22 standards and would also comply with United States Environmental Protection Agency (USEPA) standards and federal drinking water standards for nitrate and turbidity. Use of recycled water on trust lands is regulated by the Indian Health Services and the USEPA. Disposal of tertiary treated wastewater would either occur on-site through the use of seasonal storage and land disposal (sprayfields) or partially off-site through the use of seasonal storage, land disposal, and surface water disposal (eventually flowing off-site). Should the treated wastewater be disposed entirely on-site to land there would be no discharge and, therefore, no impact to surface waters. Should the treated wastewater be disposed of to surface waters, then potential impacts to surface water quality would occur.

The proposed membrane bioreactor (MBR) WWTP would provide nitrification and denitrification of the wastewater influent, as well as oxidation. Thus, the ammonia in the wastewater influent would be converted to nitrates and then to nitrogen gas (HydroScience, 2008). It has been estimated that the casino project would discharge an average of 6 kilograms per day of total nitrogen. This is 0.01 percent of the total maximum load published in the 1995 RWQCB report, *Waste Reduction Strategy for the Laguna de Santa Rosa* (Morris, 1995).

As detailed in **Appendix D**, disinfection would be provided by constructing an ultraviolet (UV) disinfection system. Though the UV facilities would disinfect the treated wastewater, they do not continue to disinfect the wastewater after it leaves the UV channel. In order to prevent regrowth of bacteria in the recycled water distribution system, sodium hypochlorite would be added in small quantities. The introduction of this chemical creates a residual concentration of chlorine that persists in the recycled water, ensuring it is safe to use after it leaves the facility. Chlorine is a very common disinfectant in the treatment and disinfection of wastewater. Any water discharged to surface waters would be fully de-chlorinated prior to discharge.

The on-site wastewater facility would pump surplus tertiary treated water into storage reservoirs and apply it to sprayfields during the dry months. The spray fields would only be located on trust lands. In the winter months, surplus tertiary treated water may be discharged into a nearby tributary of the Bellevue-Wilfred Canal. Such discharges to surface water would only occur when the Russian River's water level is high enough to allow discharges, in accordance with California State Water Resources Control Board (State Water Board) Water Quality Order No. 2000-02. Projected wastewater discharge rates appear in **Appendix D**.

Operation of the outfall could cause an incremental increase in the daily load of phosphates and nitrates, further impairing water quality in the waterway. Incremental increases in phosphates and nitrates, though, would be very diluted with large volumes of water. Increases in stream temperature could also result in negative impacts to fish and other freshwater aquatic life. These

issues would be addressed in a NPDES waste discharge permit to be obtained from the USEPA. The USEPA regulates wastewater disposal on trust lands. It is not known what conditions the USEPA will include in their permit, but typically, the USEPA implements the regulations promulgated by local regulatory agencies, which include the RWQCB. Recent similar permits issued by USEPA for other Tribal wastewater disposal projects demonstrates that the USEPA typically implements water quality standards and rate limitations equivalent to existing federal regulations and the local adopted Basin Plan. The Tribe would comply with the conditions of the NPDES permit, including an anticipated restriction of discharges to the Laguna de Santa Rosa from May through September (HydroScience, Inc., 2008). Compliance with all NPDES permit requirements would provide a less-than-significant impact to water quality from the allowed discharge of tertiary treated wastewater. Nonetheless, mitigation measures have been included in **Section 5.2.2** that would reduce impacts from wastewater.

## ***GROUNDWATER***

### ***Groundwater Levels***

Under Alternative A, groundwater would be supplied by installing two new production wells. These two wells would have an estimated sustained long-term pumping rate of 200 gallons per minute (gpm), equivalent to 0.29 million gallons per day (MGD) (note that this is a conservative estimate since average water demand is 165 gpm). The equivalent of one well would operate at a time. The remaining capacity would be in place for redundancy and backup functions. It is not expected that the Indian Health Services will classify one of the on-site wells to be used for emergency or backup uses only. The wells are expected to alternate in use based on water supply requirements, exercising the wells to maintain their operation, and to equalize run times for equipment located on each well.

The new wells would be drilled approximately 600 feet below ground surface (bgs) and the screened intervals would be installed in permeable zones between 200 and 600 feet bgs. The three existing on-site wells would be abandoned because they are inadequate for the needs of the project. One well is known to be active, one is presumed active, and one is of unknown status (HydroScience, 2008; KOMEX, 2007a).

A portion of the Wilfred site overlaps the City of Rohnert Park's Northwest Specific Plan (South) area. The portion of overlap contains the proposed casino hardscape. If the area were to be built-out as planned in the Northwest Specific Plan (South), the projected water demand for the area of overlap would be approximately 95 gpm. Development of Alternative A would result in the above-mentioned 95 gpm not being utilized for the Northwest Specific Plan (South), and reduce the net impact to water resources. For the purpose of this analysis, it is assumed that the 95 gpm used by the Northwest Specific Plan (South) in the area of overlap would be partly sourced from

groundwater. The proportion of groundwater used in the area of overlap is assumed to be equivalent to the proportion of water supply for the City that the City projected to be from groundwater. The City projects that, through 2010, 26 percent of its water will be from groundwater (Table 4-1, City of Rohnert Park, 2005). Thus, the 95 gpm used in the area of overlap would be approximately 25 gpm sourced from groundwater. Development of Alternative A would remove the area of overlap from the possibility of future build-out/build-out under the Northwest Specific Plan (South). The 25 gpm of groundwater projected to be used by the Northwest Specific Plan (South) in the area of overlap would not be utilized. The net average impact to groundwater, therefore, would be 140-gpm for Alternative A over and above that required for the build out of the Northwest specific plan.

A drawdown the water table to nearby wells may be the result of groundwater pumping on the Wilfred site. The project-related drawdown at any affected well (interference drawdown) will result in a decreased saturated thickness (depth to which a well penetrates below the water table) available to be pumped at that well. In the most extreme case, this could result in drawdown of the water level in a well to a depth where the well can no longer be pumped (*i.e.*, the affected well goes dry as a result of project pumping). At the other extreme, the effect of project pumping may be so small that the project-related drawdown is insignificant relative to short-term or seasonal fluctuations; or the drawdown could represent an insignificant impact to the well user. The following potentially significant impacts could occur:

- Impact 1 - The interference drawdown results in the water level in the aquifer being drawn down below the screen of the well (*i.e.*, the well goes dry as discussed above).
- Impact 2 - The interference drawdown results in the water level in the aquifer being drawn down to a point where the remaining saturated thickness is too small for the affected well to provide an adequate water supply for the intended use, or the pumping water level is too close to the intake level of the pump, exposing it to potential damage.
- Impact 3 - The interference drawdown results in the water level in the well during pumping (the well's pumping water level) being drawn near the intake of the pump, requiring lowering of the pump intake in order for the well to remain operational. This is essentially a variation of case 2, but there is space below the pump allowing an adequate flow rate to be restored by lowering the pump. Energy costs would be expected to increase after the pump is lowered.
- Impact 4 - The interference drawdown causes a decrease in saturated thickness such that the well and pump can continue to operate and produce adequate amounts of water, but pumping must occur at either greater frequency or duration, and must lift water for a greater height. As a result more energy is used, resulting in greater operational and maintenance costs. This condition can develop prior to the onset of impacts 1, 2 or 3.

Two primary hydrogeologic factors dictated which of the above impacts would occur: the saturated thickness of the well (before interference drawdown) and the amount of interference drawdown that is applied (which varies with the distance of the impacted well from the project well). The impact from interference drawdown has the potential to be more severe if it represents a higher percentage of the well's initial saturated thickness prior to the onset of interference drawdown. For example, a 10-foot drop in water level has a greater potential to cause Impacts 1 or 2 in a shallower well; whereas, the same drop in water level in a deeper well might result in less serious, but potentially significant impacts 3 or 4. In general, small variations in saturated thickness are not considered significant when assessing transmissivity values from the interpretation of aquifer test drawdown data (Jacob, 1950). However, in assessing the impacts of interference drawdown to neighboring pumping wells, a small change in saturated thickness could still cause a significant increase in electrical costs. These cases are discussed in additional detail below and in **Appendix G**.

The impacts resulting from interference drawdown are also dependant on several factors that may vary from well to well, even if the wells have the same saturated thickness and applied interference drawdown. These well-specific factors include the following:

- Local variations in the transmissivity of the saturated sediments in which the well is completed (*i.e.*, their ability to yield water to the well with a given amount of drawdown in the aquifer);
- The condition and efficiency of the well (*i.e.*, the water level in the well bore compared to the water level in the aquifer just outside the well, which can be significantly lower if the well is in poor condition or poorly designed);
- The well's pump specifications, including its rating curve, the depth at which the pump intake is set, and the resulting pumping water level in the well during operation;
- The well's screened interval, which usually, but not always, extends to the bottom of a well; and
- The minimum required water production rate of the well.

The factors listed above affect the amount of water a well can produce, the amount of drawdown in the aquifer needed to produce that water, and the pumping water level inside the well while it is operating, which may be lower than the water level in the aquifer. As such, information regarding these factors is important when assessing impacts to individual wells; however, it is not readily available. For this reason, our present evaluation uses saturated thickness and interference drawdown, which can be determined by applying our analytical drawdown model to available information regarding nearby wells, to assess the range of potential impacts that may reasonably be expected. In addition, it is possible that other wells may be located in the vicinity of the Site for which even basic locational information is not available.

Wells screened in the shallower zone are defined for purposes of this report as being less than 200 feet deep. These wells are generally privately-owned domestic wells, with a smaller number of agricultural wells (see Table 1 in **Appendix G**). As a result, the shallower wells are more numerous than the deeper wells in the area surrounding the Site, but the shallower wells tend to have lower pumping rates. For evaluation of interference drawdown-related impact, the shallower wells are important because they are sensitive to smaller levels of drawdown than are deeper wells. For this reason, shallow wells are evaluated for Impacts 1 through 4; whereas, deeper wells (greater than 200 feet deep) are not considered to be at risk for Impacts 1 and 2 and are evaluated only for Impacts 3 and 4.

For the purposes of this analysis, Impacts 1 and 2 are considered a significant impact and may be grouped together since they both result in a well's being rendered unusable. Whether Impact 3 occurs depends on how deep a well's pump is set, which is a well-specific factor that may or may not be applicable to a given well. Thus, the prevalence of Impact 3 is unknown due to unknown well-specific factors important to determining the occurrence of Impact 3. Impact 3 is therefore considered to be a potentially significant impact in neighboring wells (wells within 1.5 miles of the center of the Site). Impact 4 can occur in shallow or deeper wells that may or may not be at risk of the first three impacts and its significance is dependent on the relative cost increase that results to the well user.

Near the center of the Wilfred site (a possible well location), 193 shallow wells were identified within 1.5-miles. The saturated thickness of the 193 shallow wells ranges from 3.0 to 160 feet. It is estimated that if an on-site extraction well were pumped at 200 gpm (0.29 MGD) (a conservative analysis that projects a worst case scenario), then a drop of 2.9 to 9.1 feet would occur in neighboring, shallow water wells. Estimated remaining saturated thickness after deducting interference drawdown ranges from -1.0 to 154.5 feet.

Wells with a remaining saturated thicknesses of less than 20 feet may be considered at greatest risk for going dry or being rendered unusable by having insufficient available drawdown to support normal, primarily residential, pumping. Eight such wells were identified and are highlighted in Table 1 in **Appendix G**. Wells with remaining saturated thicknesses between 20 and 40 feet may have a smaller, but still significant risk of experiencing these impacts. There are 31 such wells in the vicinity of the Wilfred site. Wells with remaining saturated thicknesses over 60 feet are probably not at a significant risk of being dewatered or rendered unusable. Therefore, eight of the neighboring shallow wells would be rendered ineffective (Impacts 1 and 2), 31 wells would be at significant risk of being rendered ineffective, and 154 wells would be at low risk of being rendered ineffective (KOMEX, 2007a). It is possible that lowering of the pump (Impact 3) would be required in some of the neighboring shallow wells that are not otherwise rendered

ineffective. Whether or not these impacts are experienced depends on whether groundwater levels continue to recover in the area surrounding the site, and the degree to which deeper groundwater pumping actually affects the shallow zone.

Within 1.5 miles of a possible well location near the center of the site, 61 deeper wells were found. These wells have reported depths of 201 to 1,501 feet, with estimated saturated thickness ranging from 66 to 1,367 feet. Estimated drawdown of deep wells ranged from 3.1 to 17.8 feet. All of the deep wells are expected to experience some drawdown; however, no deep wells would be at risk of being rendered ineffective (Impacts 1 and 2) (KOMEX, 2007a). It is possible that lowering of the pump (Impact 3) would be required in some of the neighboring shallow wells.

Significant (Impacts 1 and 2) and potentially significant (Impact 3) impacts to well operation would occur at wells within the vicinity of the site soon after pumping begins for the project. Mitigation measures contained in **Section 5.2.2** would reduce these impacts to a less-than-significant level.

As described in detail in **Appendix G**, lower capacity (mostly residential) wells would not be noticeably affected by increased pumping costs caused by decreased water levels (Impact 4). Increased costs at these wells are only expected to be a few dollars per year. Costs would be higher for higher capacity wells, but the percentage increase of pumping and electrical costs would still be very small. Thus, significant increases in pumping costs (Impact 4) would not occur. Nonetheless, mitigation measures are included in **Section 5.2.2** that would reduce less-than-significant impacts to pumping costs. Given that there is incomplete or unavailable information regarding the analysis of impacts to groundwater, pursuant to the Council on Environmental Quality's NEPA Guidelines (40 CFR 1502.22), we have attempted to provide as much information as possible, note where the information is lacking, and have made reasonable assumptions based on the information that we have available. **Section 5.2.2** outlines a detailed monitoring and mitigation program that would be implemented in order to clarify the impacts that actually result and well as provide appropriate mitigation.

In addition to concerns regarding local access to water supply as resulting from a new on-site well, there is a perception that a groundwater supply is in a state of overdraft. Effects on regional groundwater sustainability are analyzed in **Section 4.12**.

### ***Groundwater Quality***

As discussed in **Section 2.2.7**, wastewater would either be conveyed to the Laguna Subregional Treatment Plant, or treated on-site. As described in the Water/Wastewater Feasibility Study (**Appendix D**) and **Section 2.2.7**, on-site treatment would be by a "Tertiary Treatment Process" that has the capability of treating wastewater to a quality level that meets California Title 22

standards for Unrestricted Irrigation Water Reclamation. Treated wastewater would be temporarily stored in an on-site storage pond. Treated-wastewater disposal would occur through the use of sprayfields, and possibly via the Bellevue-Wilfred Channel during the wet season. Discharge of treated wastewater would occur under an NPDES permit. Since discharge would meet requirements of an NPDES permit, impacts to groundwater quality would be less than significant.

### 4.3.2 ALTERNATIVE B – NORTHWEST STONY POINT CASINO

#### *SURFACE WATER*

##### *Flooding*

Under Alternative B, Less than half of the hardscape proposed would be located within the 100-year floodplain. Proposed plans would elevate the buildings and structures five feet in elevation above the footprint of the 100-year floodplain. The parking areas would be at least one-foot above the floodplain. The import of fill soils to raise the elevation of the project facilities would reduce total floodplain storage during a flood event and can increase the intensity of flooding downstream.

A grading and drainage plan has been prepared as part of the project to remedy the potential loss of floodplain storage caused by Alternative B. To accomplish this, stormwater detention has been incorporated into the constructed wetland design for the southerly portions of the Stony Point site (see **Figure 2-11**). Design of the stormwater detention basin takes into account the increase in runoff created by constructed impervious surfaces (parking lots, sidewalks, and rooftops), encroachment into the 100-year floodplain by the grading footprint comprised of fill soils associated with the proposed hotel, casino, parking lots, roads, and the potential discharge of 300,000 gpd of treated waste water effluent (Robert A. Karn & Associates, Inc., 2006; **Appendix C**). Stormwater detention basins would account for any flood storage lost by development of Alternative B; therefore, meet the requirements of Federal Executive Order 11988. A less-than-significant impact to downstream flooding from loss of floodplain storage and stormwater runoff would result.

A seasonal storage pond and portions of the spray fields are located outside of the 100 year floodplain. The WWTP and a seasonal storage pond would be located within the 100-year floodplain (see **Figures 2-12** and **2-13**). The required NPDES permit will not allow discharge of treated wastewater to surface water during a flood event. Sprayfields would be operated to insure no runoff to surface waters and would therefore also not be operated during flood events. The WWTP and seasonal storage ponds within the 100-year floodplain would be elevated above the 100-year floodplain elevation (see **Section 2.3.6** and **Appendix D**) in order to minimize the commingling of flood waters with untreated wastewater and to insure unanticipated discharges to

flood waters do not occur. Thus, the operation of on-site wastewater treatment facilities would not significantly impact flooding.

### ***Construction Impacts***

Construction impacts of Alternative B would be similar to those of Alternative A, with only minor differences between the designs of the two alternatives. Construction impacts would be potentially significant. Mitigation is discussed in **Section 5.2.2** to reduce impacts from construction.

### ***Stormwater Runoff***

Operational impacts of Alternative B from stormwater would be similar to Alternative A as the extent of parking surfaces and rooftops of Alternative B is similar to Alternative A; only configured differently. Use of detention basins and runoff filtering discussed in Alternative A would be similar for Alternative B. Thus, the impact of runoff to drainage and water quality would be less than significant. Nonetheless, mitigation measures have been included in **Section 5.2.2** that would reduce impacts from stormwater runoff.

### ***Wastewater***

Unlike Alternative A, Alternative B would not include the option of conveying wastewater to the Laguna WWTP. Wastewater quality and permitting requirements for an on-site WWTP would be similar to Alternative A. See analysis of impacts from wastewater above under Alternative A for full discussion. Impacts from treatment plant operations would be less than significant. Nonetheless, mitigation measures have been included in **Section 5.2.2** that would reduce impacts from wastewater.

## ***GROUNDWATER***

### ***Groundwater Levels***

Alternative B groundwater demands would be the same as Alternative A. Unlike Alternative A, Alternative B would not reduce long-term City water usage by a projected 95 gpm, because the Stony Point site does not overlap with the City of Rohnert Park's Northwest Specific Plan (South) area. The four wells existing on the Stony Point site would be abandoned because they are inadequate for the needs of Alternative B. Two wells are currently active and two are currently abandoned and sealed. Unlike Alternative A, with Alternative B, full build-out of the City of Rohnert Park's Northwest Specific Plan (South) would proceed. This build-out is further discussed in **Section 4.12**, Cumulative Effects. For further discussion of impacts to groundwater, see analysis for Alternative A, above.

Pumping of groundwater at the Stony Point site would potentially result in dewatering or a significant reduction in saturated thickness of neighboring wells as under Alternative A, given that both Alternatives A and B would include new wells pumping at the same levels. The groundwater level impacts would be significant. Mitigation is discussed in **Section 5.2.2** to reduce impacts to groundwater levels.

As described under Alternative A, impacts to increased pumping costs for neighboring wells would be less than significant. Nonetheless, mitigation measures are included in **Section 5.2.2** that would further reduce impacts to a less-than-significant level.

In addition to concerns regarding local access to water supply as resulting from a new on-site well, there is a perception that a groundwater supply is in a state of overdraft. Effects on regional groundwater sustainability are analyzed in **Section 4.12**.

### **Groundwater Quality**

Alternative B would use storage and disposals systems for treated wastewater that are similar to those described for the on-site treatment option for Alternative A. As described for Alternative A, effects to groundwater quality would be less than significant.

## **4.3.3 ALTERNATIVE C – NORTHEAST STONY POINT CASINO**

### ***SURFACE WATER***

#### ***Flooding***

Under Alternative C, slightly over half of the hardscape proposed would be located within the 100-year floodplain. As with Alternative B, proposed plans would elevate the buildings and structures five feet in elevation above the footprint of the 100-year floodplain. The parking areas would be at least one foot above the floodplain. The import of fill soils to raise the elevation of the project facilities would reduce total floodplain storage during a flood event and can increase the intensity of flooding downstream.

A grading and drainage plan has been prepared as part of the project to remedy the potential loss of floodplain storage caused by Alternative C. To accomplish this, stormwater detention has been incorporated into the constructed wetland design for southerly portions of the Stony Point site (see **Figure 2-16**). Design of the basin takes into account the increase in runoff created by constructed impervious surfaces (parking lots, sidewalks, and rooftops), encroachment into the 100-year floodplain by the grading footprint and fill soils of the hotel, casino, parking lots, roads, and the potential discharge of 300,000 gpd of treated waste water effluent (Robert A. Karn & Associates, Inc., 2006; **Appendix C**). Stormwater detention basins would account for any flood storage lost by development of Alternative C; therefore, meet the requirements of Federal

Executive Order 11988. Thus, a less-than-significant impact to downstream flooding from loss of floodplain storage and stormwater runoff would result.

A seasonal storage pond and portions of the sprayfields are located outside of the 100-year floodplain. The WWTP and a seasonal storage pond would be located within the 100-year floodplain (see **Figures 2-17** and **2-18**). The required NPDES permit will not allow discharge of treated wastewater to a surface water during a flood event. Sprayfields would be operated to insure no runoff to surface waters and would therefore not be operated during flood events. The wastewater treatment plant and seasonal storage ponds within the 100-year floodplain would be elevated above the 100-year floodplain elevation (see **Section 2.4.6** and **Appendix D**) in order to minimize the commingling of flood waters with untreated wastewater and to insure unanticipated discharges to flood waters do not occur. Thus, the operation of on-site wastewater treatment facilities would not significantly impact flooding.

### ***Construction Impacts***

Construction impacts of Alternative C would be similar to those of Alternative A, with only minor differences between the designs of the two alternatives. Construction impacts would be potentially significant. Mitigation is discussed in **Section 5.2.2** to reduce impacts from construction.

### ***Stormwater Runoff***

Operational impacts of Alternative C from stormwater would be similar to Alternative A as the extent of parking surfaces and rooftops of Alternative C is similar to Alternative A; only configured differently. Use of detention basins and runoff filtering discussed in Alternative A would be similar for Alternative C. Thus, the impact of runoff to drainage and water quality would be less than significant. Nonetheless, mitigation measures have been included in **Section 5.2.2** that would reduce impacts from stormwater runoff.

### ***Wastewater***

Wastewater quality and permitting requirements would not differ from Alternative A. See analysis of impacts from wastewater above under Alternative A. Impacts from treatment plant operations would therefore be less than significant. Nonetheless, mitigation measures have been included in **Section 5.2.2** that would reduce impacts from wastewater.

## ***GROUNDWATER***

### ***Groundwater Levels***

Alternative C would utilize the same amount of groundwater as Alternative B from an on-site well (with a second well constructed for redundancy). For a discussion of impacts to

groundwater, see the analysis under Alternative B, above. Pumping of groundwater at the Stony Point site would potentially result in dewatering or significant reduction in saturated thickness of neighboring wells to a similar level as Alternative A given that both alternatives would include new wells pumping at the same levels. These would be significant impacts and mitigation is discussed in **Section 5.2.2** to reduce impacts to groundwater to a less-than-significant level.

As described under Alternative A, impacts to increased pumping costs for neighboring wells would be less than significant. Nonetheless, mitigation measures are included in **Section 5.2.2** that would reduce less-than-significant impacts to pumping costs.

Aside from concerns regarding local access to water supply as a result of extraction from a new well on-site, is the perception that the groundwater supply is in a state of overdraft. Effects on regional groundwater sustainability are analyzed in **Section 4.12**.

#### *Groundwater Quality*

Design of storage systems for treated wastewater would not differ from Alternative B. As described for Alternative B, effects to groundwater quality would be less than significant.

### **4.3.4 ALTERNATIVE D – REDUCED INTENSITY (STONY POINT SITE)**

#### *SURFACE WATER*

##### *Flooding*

As with Alternative B, less than half of the hardscape proposed for Alternative D would be located within the 100-year floodplain. Under Alternative D, proposed plans would elevate the buildings and structures five feet in elevation above the footprint of the 100-year floodplain. The parking areas would be at least one foot above the floodplain. The import of fill soils to raise the elevation of the project facilities would reduce total floodplain storage during a flood event and could increase the intensity of flooding downstream.

A grading and drainage plan has been prepared as part of the project to remedy the loss of floodplain storage caused by Alternative D. To accomplish this, stormwater detention has been incorporated into the constructed wetland design for southerly portions of the Stony Point site (see **Figure 2-11**). Design of the basin takes into account the increase in runoff created by constructed impervious surfaces (parking lots, sidewalks, and rooftops), encroachment into the 100-year floodplain by the grading footprint and fill of the hotel, casino, parking lots, and roads, and the potential discharge of treated waste water effluent (Robert A. Karn & Associates, Inc., 2006; **Appendix C**). Stormwater detention basins would account for any flood storage lost by development of Alternative D; therefore, meet the requirements of Federal Executive Order

11988. A less-than-significant impact to downstream flooding from loss of floodplain storage and stormwater runoff would result.

A seasonal storage pond and portions of the sprayfields are located outside of the 100-year floodplain. The wastewater treatment plant and a seasonal storage pond would be located within the 100-year floodplain (see **Figures 2-21** and **2-22**). The required NPDES permit will not allow discharge of treated wastewater to a surface water during a flood event. Sprayfields would be operated to insure no runoff to surface waters and would therefore also not be operated during flood events. The wastewater treatment plant and seasonal storage ponds within the 100-year floodplain would be elevated above the 100-year floodplain elevation (see **Section 2.5.6** and **Appendix D**) in order to minimize the commingling of flood waters with untreated wastewater and to insure unanticipated discharges to flood waters do not occur. Thus, the operation of on-site wastewater treatment facilities would not significantly impact flooding.

### ***Construction Impacts***

Construction impacts of Alternative D would be similar to those of Alternative A, with Alternative D construction occurring at a smaller scale, but with a similar footprint. Construction impacts would be potentially significant. Mitigation is discussed in **Section 5.2.2** to reduce impacts from construction.

### ***Stormwater Runoff***

The impact of stormwater runoff associated with Alternative D would be similar to those of Alternative A, with the exception that the extent of parking surfaces and roof tops associated with Alternative D are slightly smaller in area. Use of detention basins and runoff filtering discussed above under Alternative A would be similar for Alternative D. Thus, the impact of runoff to drainage and water quality would be less than significant. Nonetheless, mitigation measures have been included in **Section 5.2.2** that would reduce impacts from stormwater runoff.

### ***Wastewater***

Wastewater quality and permitting requirements related to Alternative D would not differ from Alternative A. See analysis of impacts from wastewater above under Alternative A. Impacts from treatment plant operations would therefore be less than significant. Nonetheless, mitigation measures have been included in **Section 5.2.2** that would reduce impacts from wastewater.

## ***GROUNDWATER***

### ***Groundwater Levels***

Under Alternative D, groundwater would be used to a lesser extent than under Alternatives A, B, and C with an average water demand at 115 gpm. The project would receive its water supply

from two new production wells with a sustained long-term pumping rate of 150 gpm or 0.14 MGD. One well can be used as an extraction well while the other new well would serve as a groundwater-monitoring well and would provide a back-up supply when the main well cannot be used due to maintenance or repair. These wells would be screened in permeable zones between 200 and 600 feet bgs. The four existing on-site wells would be abandoned and a number of new on-site well locations have been proposed (HydroScience, 2008). With development of Alternative D, full build-out of the City of Rohnert Park's Northwest Specific Plan (South) would proceed. This build-out is further discussed in **Section 4.12**, Cumulative Effects.

Net water use under Alternative D would be significantly reduced compared to Alternatives B and C, but equivalent to Alternative A (although the Alternative A development would utilize more groundwater than Alternative D it would also displace groundwater usage under the Northwest Specific Plan). Dewatering or significant reductions in the saturated thickness of neighboring wells are possible. These represent significant impacts. Mitigation is contained in **Section 5.2.2** that would reduce groundwater effects to a less-than-significant level.

As described under Alternative A, impacts to increased pumping costs for neighboring wells would be less than significant. Nonetheless, mitigation measures are included in **Section 5.2.2** that would reduce less-than-significant impacts to pumping costs.

Aside from concerns regarding local access to water supply as a result of extraction from a new well on-site, is the perception that the groundwater supply is in a state of overdraft. Effects on regional groundwater sustainability are analyzed in **Section 4.12**.

### ***Groundwater Quality***

Design of storage systems for treated wastewater would not differ from Alternative B. As described for Alternative B, effects to groundwater quality would be less than significant.

## **4.3.5 ALTERNATIVE E – BUSINESS PARK**

### ***SURFACE WATER***

#### ***Flooding***

A less-than-half portion of the hardscape proposed under Alternative E would be located within the 100-year floodplain. Under Alternative E, proposed plans would elevate the buildings and structures five feet in elevation above the footprint of the 100-year floodplain. The parking areas would be at least one foot above the floodplain. The import of fill soils to raise the elevation of the project facilities would reduce total floodplain storage during a flood event and can increase the intensity of flooding downstream.

A grading and drainage plan has been prepared as part of the project to remedy the potential loss of floodplain storage caused by Alternative E. To accomplish this, stormwater detention has been incorporated into the constructed wetland design for southerly portions of the Stony Point site (see **Figure 2-11**). Design of the basin takes into account the increase in runoff created by constructed impervious surfaces (parking lots, sidewalks, and rooftops), encroachment into the 100-year floodplain by the grading footprint and fill soils of the hotel, casino, parking lots, and roads, and the potential discharge of treated waste water effluent (Robert A. Karn & Associates, Inc., 2006; **Appendix C**). Stormwater detention basins would account for any flood storage lost by development of Alternative E; therefore, meet the requirements of Federal Executive Order 11988. Thus, a less-than-significant impact to downstream flooding from loss of floodplain storage and stormwater runoff would result.

A seasonal storage pond and portions of the sprayfields are located outside of the 100-year floodplain. The wastewater treatment plant and a seasonal storage pond would be located within the 100-year floodplain (see **Figures 2-26** and **2-27**). The required NPDES permit will not allow discharge of treated wastewater to a surface water during a flood event. Sprayfields would be operated to insure no runoff to surface waters and would therefore also not be operated during flood events. The WWTP and seasonal storage ponds within the 100-year floodplain would be elevated above the 100-year floodplain elevation (see **Section 2.6.6** and **Appendix D**) in order to minimize the commingling of flood waters with untreated wastewater and to eliminate unanticipated discharges to flood waters do not occur. Thus, the operation of on-site wastewater treatment facilities would not significantly impact flooding.

### ***Construction Impacts***

Construction impacts of Alternative E would be similar to those of Alternative A, with Alternative E construction occurring at a smaller scale, but with a similar footprint. Construction impacts would be potentially significant. Mitigation is discussed in **Section 5.2.2** to reduce construction impacts.

### ***Stormwater Runoff***

Operational impacts of Alternative E would be similar to Alternative B to the extent that the surface area of parking structures and roof-tops of Alternative E would be slightly smaller but similar to Alternative B. Use of detention basins and runoff filtering discussed above under Alternative B would be similar for Alternative E. Thus, the impact of runoff to drainage and water quality would be less than significant. Nonetheless, mitigation measures have been included in **Section 5.2.2** that would reduce impacts from stormwater runoff.

### ***Wastewater***

Wastewater quality and permitting requirements would not differ from Alternative B (see analysis of impacts from wastewater above under Alternative B). Impacts from treatment plant operations would therefore be less than significant. Nonetheless, mitigation measures have been included in **Section 5.2.2** that would reduce impacts from wastewater.

## ***GROUNDWATER***

### ***Groundwater Levels***

Under Alternative E, groundwater would be used to a lesser extent than under Alternatives A, B, and C with an average water demand is estimated at 43 gpm. The project would receive its water supply from two new 50 gpm wells drilled approximately 600 feet deep. One of the wells would be a production well and the other would serve as a groundwater monitoring well and provide, a back up supply when the main well cannot be used due to maintenance or repair. These wells would be screened in permeable zones between 200 and 600 feet bgs. The four existing on-site wells would be abandoned and a number of new on-site well locations have been proposed (HydroScience, 2008). With development of Alternative E, full build-out of the City of Rohnert Park's Northwest Specific Plan (South) would proceed. This build-out is further discussed in the **Section 4.12**, Cumulative Effects.

Alternative E would effectively utilize approximately 50 percent less water than Alternatives A and D; and approximately 75 percent less water than Alternatives B and C. Thus, impacts to groundwater levels would be reduced with Alternative E. Nevertheless, dewatering or significant reductions in the saturated thickness of neighboring wells are possible and represent significant impacts. Mitigation is contained in **Section 5.2.2** that would reduce groundwater effects to a less-than-significant level.

As described under Alternative A, impacts to increased pumping costs for neighboring wells would be less than significant. Nonetheless, mitigation measures are included in **Section 5.2.2** that would reduce less-than-significant impacts to pumping costs.

Aside from concerns regarding local access to water supply as a result of extraction from a new well on-site, is the perception that the groundwater supply is in a state of overdraft. Effects on regional groundwater sustainability are analyzed in **Section 4.12**.

### ***Groundwater Quality***

Design of storage systems for treated wastewater would not differ from Alternative B. As described for Alternative B, effects to groundwater quality would be less than significant.

### 4.3.6 ALTERNATIVE F – LAKEVILLE CASINO

#### *SURFACE WATER*

##### *Flooding*

A portion of the hardscape proposed under Alternative F would be located within the 100-year floodplain. As with Alternative B, proposed plans would elevate the buildings and structures five feet in elevation above the footprint of the 100-year floodplain. The parking areas would be at least one foot above the floodplain. The import of fill soils to raise the elevation of the project facilities would reduce total floodplain storage during a flood event and can increase the intensity of flooding downstream.

A grading and drainage plan has been prepared to remedy the loss of floodplain storage caused by Alternative F. To accomplish this, stormwater detention basins have been incorporated into the project design on the Lakeville site (**Figure 2-29**). Design of the basins takes into account the increase in runoff created by the construction of impervious surfaces (parking lots, sidewalks, and rooftops); encroachment into the 100-year floodplain by the grading footprint and fill of the hotel, casino, parking lots, and roads; and the potential discharge of 300,000 gpd of treated wastewater effluent (Robert A. Karn & Associates, Inc., 2006; **Appendix C**). Stormwater detention basins would account for any flood storage lost by development of Alternative F and; therefore, meet the requirements of Federal Executive Order 11988. Thus, a less-than-significant impact to downstream flooding from loss of floodplain storage and stormwater runoff would result.

The wastewater treatment plant and seasonal storage ponds would be located within the 100-year floodplain (see **Figures 2-30** and **2-31**). Portions of the sprayfields are located outside of the 100-year floodplain. The required NPDES permit will not allow discharge of treated wastewater to surface water during a flood event. Sprayfields would be operated to eliminate runoff to surface waters and would therefore also not be operated during flood events. The WWTP and seasonal storage ponds within the 100-year floodplain would be elevated above the 100-year floodplain elevation (see **Section 2.7.6** and **Appendix D**) in order to minimize the commingling of flood waters with untreated wastewater and to eliminate unanticipated discharges to flood waters do not occur. Thus, the operation of on-site wastewater treatment facilities would not significantly impact flooding.

##### *Construction Impacts*

Construction impacts from Alternative F would be similar to those of Alternative A, with only minor differences between the designs of the two alternatives. Construction impacts would be potentially significant. Mitigation is discussed in **Section 5.2.2** to reduce construction impacts.

### ***Stormwater Runoff***

The impacts of stormwater runoff associated with Alternative F would be similar to those of Alternative A, with the exception of the layout of parking surfaces and roof-tops associated with Alternative F are arranged in a different configuration. The use of detention basins and runoff filtering discussed under Alternative B would be similar for Alternative F. Thus, the impact of runoff to drainage and water quality would be less than significant. Nonetheless, mitigation measures have been included in **Section 5.2.2** that would reduce impacts from stormwater runoff.

### ***Wastewater***

Wastewater quality and permitting requirements for Alternative F would be similar to Alternative A, under Alternative F, the wastewater would be discharged to an unnamed on-site drainage and would eventually flow to the Petaluma River instead of the Russian River (see analysis of impacts from wastewater above under Alternative A). Impacts from treatment plant operations would therefore be less than significant. Nonetheless, mitigation measures have been included in **Section 5.2.2** that would reduce impacts from wastewater.

## ***GROUNDWATER***

### ***Groundwater Levels***

Alternative F would utilize the same volume of groundwater as Alternative A from an on-site well (with a second well constructed for redundancy). At least one of the wells used would be a recently constructed well located on the southwestern corner of the Lakeville site. Well testing conducted by Hydrosience (2008) in 2003 found satisfactory flows and generally good water quality in the recently drilled well.

Potential adverse impacts to the production capacity of neighboring water supply wells may occur due to on-site pumping lowering the water level (e.g. dewatering or reducing the saturated thickness from which to extract groundwater) of the neighboring wells (see description of the range of impact above under Alternative A).

There are 57 wells located in the vicinity of the Lakeville site, all of which may be expected to experience drawdown impacts except for well 12 (which is located across the Petaluma River from the site) and wells 26, 27, and 28 (located in fractured bedrock) (see **Appendix G** and **Figure 3.9-1**). An analytical drawdown model prepared by KOMEX (2007b) predicted drawdown impacts to the identified neighboring wells of at a minimum of 10-feet and, in some cases, over 100-feet near the site. Under Alternative F, wells at risk for interference drawdown impacts are those completed at shallow depths, located at close proximity to the project site, and those having low efficiencies. A significant impact would result if a neighboring well goes dry, either through the lowering of the water table below the well or the pump level (Impacts 1, 2, or

3). As discussed under Alternative A, neighboring wells could also experience increased electrical costs from increased pumping under Alternative F. Like Alternatives A-E, cost increases would be minimal and less than significant for smaller capacity wells. However, for a larger capacity well that is located close to the site, a significant pumping cost increase of over ten percent could result. Mitigation is discussed in **Section 5.2.2** that would reduce impacts to a less-than-significant level.

Aside from concerns regarding local access to water supply as a result of extraction from a new well on-site, is the perception that the groundwater supply is in a state of overdraft. Effects on regional groundwater sustainability are analyzed in **Section 4.12**.

### ***Groundwater Quality***

It is possible that pumping at the Lakeville site would induce seawater intrusion into the aquifer. The extent to which seawater intrusion would occur is was not possible to determine. Seawater intrusion, if it were to occur, would impact off-site wells between the Lakeville site and the Petaluma River or the San Pablo Bay. Seawater intrusion would cause well, pump and pipe corrosion; render water objectionable or unusable; and create the need for water treatment prior to use. Additionally, seawater intrusion could trigger regulatory requirements to cease pumping to possibly to restore affected groundwater. Impacts to groundwater quality would be potentially significant. Mitigation is discussed in **Section 5.2.2** that would reduce impacts to groundwater quality.

### **4.3.7 ALTERNATIVE G – NO ACTION**

Under the No Action Alternative, it is assumed that future development of the Wilfred site, Stony Point site, and Lakeville site would be guided by existing land use plans. For the Stony Point site and Lakeville site there are currently no known development plans. According to the Northwest Specific Plan (South; City of Rohnert Park, 2004) the northeast corner of the Wilfred site would be developed with residential and commercial uses

### ***SURFACE WATER***

#### ***Flooding***

All three Sites (Wilfred, Stony Point, and Lakeville) predominantly occur within the 100-year floodplain. No change in land use or development of facilities is expected on the Stony Point or Lakeville sites. The only currently known development, on the northwest corner of the Wilfred site consistent with the Northwest Specific Plan, is outside of the 100-year floodplain. No alteration of the floodplain is reasonably foreseeable. Development under the Northwest Specific Plan would result in increases in stormwater runoff from increased hardscape on the Wilfred site. According to the Initial Study for the City of Rohnert Park Northwest Specific Plan (South)

Project, drainage channels downstream of the Wilfred site would need to be expanded to accommodate increased flows from the Wilfred site. Even with the expansion of immediate drainage channels such as Labath Creek, potentially significant increases in downstream flows may occur during flood events. Mitigation measures that would decrease potentially significant impacts to a less-than-significant level are located in **Section 5.2.2**.

### ***Construction Impacts***

No development plans are currently known for the Stony Point or Lakeville sites. As mentioned the northeast corner of the Wilfred site would be developed in accordance with the Northwest Specific Plan (South). Such development could cause impacts similar to those described for Alternative A. Impacts from development at the Wilfred site would be potentially significant. Mitigation is discussed in **Section 5.2.2** to reduce any construction impacts to a less-than-significant level.

### ***Stormwater Runoff***

Stormwater runoff would not change at the Stony Point or Lakeville sites as a result of Alternative G. The northeast corner of the Wilfred site would be developed according to the Northwest Specific Plan (South). Impervious surfaces may be increased due to the construction of buildings and paved areas; therefore, increasing stormwater runoff in the area. As previously described, runoff from facilities such as parking lots could flush trash, debris, oil, and other contaminants into area surface waters. The Northwest Specific Plan (South) incorporates a plan to improve La Bath Creek. The improvements would increase the width and depth of the creek, improving hydraulic capacity and post-construction storm water cleaning. Storm drains would also be included in improvements to Dowdell, La Bath, and Langner Avenues. Impacts from stormwater runoff would be less than significant.

### ***Wastewater***

Wastewater would not be generated at the Stony Point and Lakeville sites as there are no new development plans proposed in the areas. Wastewater would be generated from the development associated with the Northwest Specific Plan (South) on the northeast corner of the Wilfred site. Furthermore, the City of Rohnert Park has 0.48 MGD of unused allotment in the subregional wastewater disposal system, and has authorization from the City of Santa Rosa to use a portion of its unused allotment. The City of Rohnert Park has access to sufficient unused capacity to serve the Northwest Specific Plan (South). The City of Rohnert Park was also planning and constructing an interceptor line that would carry effluent from the City to the Llano plant in the Northwest Specific Plan (South). Treated wastewater would be discharged under an existing NPDES permit held by the wastewater disposal system. Impacts from wastewater would be less than significant.

**GROUNDWATER**

***Groundwater Levels***

There are no development plans currently proposed for the Stony Point or Lakeville sites. At the Stony Point site, at least two wells would continue pumping a comparatively small amount of water for agricultural purposes. Impacts to groundwater levels would be less than significant. At the Lakeville site, three existing wells would continue to pump water for agricultural purposes. Two wells have undetermined pumpage rates. One well was tested by KOMEX (2007b) in a 48-hour constant pumping test at an average of 90 gpm (0.13 MGD); however, this is a higher rate than would be expected during normal use. Impacts to groundwater levels would be less than significant.

Development of the northeast corner of the Wilfred site would utilize groundwater. As discussed in Alternative A, projected water use in the area of overlap between the Wilfred site and the Northwest Specific Plan, would be approximately 95 gpm. Based on the City of Rohnert Park's projected proportion of use of groundwater to overall water use, approximately 25 gpm of groundwater would be used. The City of Rohnert Park's Water Supply Assessment (2005) has allotted sufficient water to allow for development of the Northwest Specific Plan (South). Therefore, impacts to groundwater levels would be less than significant.

***Groundwater Quality***

No development plans are currently proposed for the Stony Point or Lakeville sites. The two sites would presumably remain as agricultural use. The ongoing level of impact on groundwater quality due to leachate from cattle grazing would continue at both Sites. Impacts to groundwater quality would be less than significant.

The northeast corner of the Wilfred site would be developed in accordance with the Northwest Specific Plan (South), and the remaining portion of the site would presumably remain as agricultural use. Wastewater would be treated by the subregional wastewater disposal system, and discharged under an existing NPDES permit. Stormwater would be drained from the site in accordance with the Northwest Specific Plan (South). Impacts to groundwater quality would be less than significant.

**4.3.8 ALTERNATIVE H –REDUCED INTENSITY (WILFRED SITE)**

Development of Alternative H would result in similar but reduced effects from flooding, construction impacts, stormwater runoff, wastewater, and groundwater impacts as Alternative A.

## ***SURFACE WATER***

### ***Flooding***

As with Alternative A, the layout of the hardscape for Alternative H's buildings and structures is designed to be located outside of the 100-year floodplain. Therefore, no loss of 100-year floodplain storage would occur, and the portion of the site within the floodplain would be utilized for sprayfields and open space. Sprayfields would not be operated during flood events in order to eliminate additional runoff to surface waters would occur. Additionally, the NPDES permit for wastewater discharge would not allow discharge of treated wastewater to a surface water during a flood event. Therefore, operation of the on-site wastewater treatment facilities would not significantly impact flooding.

Flooding effects resulting from increased impervious surfaces due to construction of Alternative H would be similar to those under Alternative A, but reduced in intensity. In addition, the same southern detention basin design as proposed under Alternative A would be included for Alternative H, resulting in an even greater benefit to area flood storage than Alternative A due to the reduced footprint of Alternative H. Incorporation of the stormwater detention basin and other measures, as specified in the drainage plan, would enable temporary collection of stormwater runoff from hardscape areas. Stormwater runoff would then be released over time, to reduce the impacts to downstream flooding and result in less-than-significant downstream flooding impacts.

### ***Construction Impacts***

Construction impacts resulting from implementation of Alternative H would be similar to those of Alternative A. Alternative H would result in reduced construction activities, similar to those identified in Alternative D. Incorporation of the mitigation measures specified in **Section 5.2.2** would reduce these impacts to less-than-significant levels.

Stormwater Runoff Construction of Alternative H would contain a reduced size of impervious surfaces (roof-tops and parking structures) as Alternative A; however, would consist of the same components of Alternative D. Therefore, operational impacts from stormwater under Alternative H would occur to the same extent as Alternative A, but would have the reduced intensity similar to Alternative D. Detention basins and runoff filtering utilized for Alternative H would be similar to that proposed for Alternative D. Therefore, the impacts to drainage and water quality would be less than significant. Implementation of the mitigation measures included in **Section 5.2.2** would further reduce impacts related to stormwater runoff.

### ***Wastewater***

Wastewater quality and permitting requirements related to Alternative H would not differ from Alternative D, except for the additional option of wastewater treatment at the Laguna WWTP

described under Alternative A. A full analysis of wastewater impacts are located in Alternative A and D (**Sections 4.3.1 and 4.3.4**). Methods for wastewater disposal under Alternative H would be the same as those described for Alternative A, except that volumes required for seasonal storage ponds and sprayfields would be the same as Alternative D. Impacts from treatment plant and disposal operations would be less than significant. Mitigation measures have been included in **Section 5.2.2** to further reduce any impacts from wastewater.

#### ***GROUNDWATER***

##### ***Groundwater Levels***

In comparison to Alternative A, groundwater usage would be reduced under implementation of Alternative H and would be the same as that of Alternative D. New water supply facilities would also be the same as those described in Alternative D, except that they would be located on the Wilfred site. Potential impacts related to groundwater pumping for Alternative H would be the same extent as those described in the analysis of Alternative D, except that they would also occur on the Wilfred site (see **Section 4.3.4**). Mitigation measures for potential groundwater impacts that would occur under the implementation of Alternative H are included in **Section 5.2.2**, and these mitigation measures would reduce groundwater impacts to less-than-significant levels, as described in the analysis of Alternative D, above. Effects on regional groundwater sustainability are analyzed in **Section 4.12**.

##### ***Groundwater Quality***

Under implementation of Alternative H, the design of storage systems and other facilities for treated wastewater would not differ from Alternative D, except that they would be located at the Wilfred site. Therefore, effects to groundwater quality would be less than significant.