

# ***SECTION 4.0***

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## *ENVIRONMENTAL CONSEQUENCES*

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## ENVIRONMENTAL CONSEQUENCES

In this section, environmental consequences are described for Alternative A (Proposed Project), Alternative B (Onsite Water and Wastewater), Alternative C (Reduced Intensity with Onsite Water and Wastewater), and Alternative D (No-Action). Areas that are analyzed include direct and indirect impacts to land resources, water resources, air quality, biological resources, cultural resources, socioeconomic conditions and environmental justice, transportation and circulation, land use, public services, noise, hazardous materials, and visual resources. The Council on Environmental Quality (CEQ) regulations state that direct impacts are those that are caused by the action and occur at the same time and place, while indirect impacts are caused by the action and occur later in time or further in distance, but are still reasonably foreseeable (CEQ 1508.8). Cumulative and growth-inducing effects of the Proposed Action are also assessed for each of these issue areas. Note that, consistent with the CEQ's NEPA Regulations Section 1508.8, the term "effects" is used synonymously with the term "impacts."

### 4.1 ALTERNATIVE A - PROPOSED PROJECT

#### 4.1.1 LAND RESOURCES

##### *Topography*

The housing community was designed to avoid constructing on slopes greater than 20 percent. This design will reduce the amount of grading and other earthwork necessary for the construction of the project features (i.e., housing, community center, etc.). Architectural designs accommodate the topography in order to preserve the natural aesthetics of the project site. This alternative would result in approximately 1,800 cy of excess soil that would either be used on site or disposed of in an approved off-site location. Alternative A would not result in significant impacts related to topography.

##### *Geologic Setting and Seismicity*

The projected earthquake magnitudes for the region indicate that the project site could potentially be exposed to future seismic shaking (RGH, 2008). Construction of Alternative A would adhere to the California Building Code (CBC), as described in **Section 2.0**. Use of the CBC design and construction standards for Seismic Zone 4 would allow ground shaking-related hazards to be managed from a geologic, geotechnical, and structural standpoint such that risks to the health or safety of workers or members of the public would be reduced to a less than significant level.

### *Soils*

The soil types located on the site are characterized by steep slopes and moderately high permeability rates. All but one of the soil types has an erosion hazard rating of slight or moderate. Due to the woody vegetation, substantial groundcover and minimized grading in these areas, erosion hazards would be less than significant. Felta very gravelly loam (FaF) has an erosion hazard rating of severe (NRCS, 2008a). During construction the exposure of soil increases the risk of erosion. Protective measures are listed under **Section 5.0**.

The soils found on the site appear hard and strong when dry but will lose strength rapidly and settle under the stresses of construction (RGH, 2008). The moisture content of the soils can increase as the result of rainfall, irrigation, or condensation of water vapor under fills, foundations, pavement, and slabs. Mitigation measures for reducing impacts related to these soil properties are listed under **Section 5.0**.

The soils on the project site are characterized as corrosive to steel (NRCS, 2008a). The protective measure listed under **Section 2.0** would be implemented if any steel is used in the construction of Alternative A.

With the implementation of the protective measures listed in **Section 2.0** and the mitigation measures listed in **Section 5.0**, impacts to land resources would be less than significant. No additional mitigation measures would be warranted.

### *Mineral Resources*

As stated in **Section 3.1.5**, there are no known mineral resources within the project area. Although areas along the Russian River are known to contain extensive mineral resources, the project site is located outside the valley in a region where significant mineral resources are not likely to occur. Construction of the Proposed Project would not result in the loss of mineral resources. No mitigation is warranted.

## **4.1.2 WATER RESOURCES**

### *Surface Water, Drainage, and Flooding*

Alternative A (**Figure 2-1**) has been designed to avoid the majority of water resources located on the site. A small man-made isolated pit would be filled; however, this pit is not considered a jurisdictional feature and filling it in would not result in a significant impact. As mentioned in **Section 2.0**, the isolated pits within the project site are man-made holes that may have functioned as watering holes for cattle, test percolation pits, or potential sites for trash disposal. Further discussion of the surface waters found on the site is included in the Biological Assessment (BA) included in **Appendix E**.

Alternative A would increase impervious surfaces on the site through the construction of roads, houses, community buildings, and sidewalks. It is estimated that the construction of the project would increase impervious areas by approximately 18.6 acres. Increased impervious surfaces would result in increased peak flows and increased total discharge from the project site during

wet weather events, which if not properly dealt with, could add increased stormwater flow to the area's drainage systems and result in localized flooding. To reduce this impact, preparation of a drainage plan, including vegetated swales and the use of permeable surfaces, has been incorporated into the project design, as discussed in **Section 2.0**. The use of permeable surfaces in the project design would further minimize runoff and ensure that no significant impacts occur.

All buildings, roadways, and other proposed amenities would be constructed outside the FEMA-designated 100-year flood zone. No significant impacts related to flooding would occur.

### ***Water Supply and Groundwater***

Under Alternative A, water would be supplied through a pipeline extension to the municipal water system of the Town of Windsor, under an agreement to be negotiated between the parties. An 18-inch diameter water main runs along Windsor River Road, bordering the project site to the north. As described in **Section 2.1.5**, two connections equipped with meters and backflow prevention facilities, if required, would be constructed into the project from the existing 18-inch main. It is anticipated that the existing municipal system would be able to accommodate the water demands of the project. Water demands are summarized in **Table 4-1**. The projected average daily demand (ADD) of the Proposed Project is 82,300 gallons per day (gpd) or 57 gallons per minute (gpm) (ECO:Logic, 2009a) (**Appendix B**).

**TABLE 4-1**  
WATER DEMAND FOR THE PROPOSED PROJECT

<b>Description</b>	<b>Average Day Demand (gpd)</b>
Single-family houses	59,850
Cottages	9,600
High-density units	11,200
Community Center	1,200
Retreat	400
Roundhouse	0
<b>Total Water Demand</b>	<b>82,300</b>
Source: ECO:Logic, 2009a	

The Department of Water Resources (DWR) monitors the levels of groundwater in the Santa Rosa Basin. Readings from a monitoring well located in the Town of Windsor, approximately one mile east of the project site, show a seasonal rising and falling of the groundwater table. However, the general trend from 1976 to 2002 (the most recent date of measurement) indicates a rising of the groundwater table (DWR, 2008). This can be inferred as an increase in the amount of water held in the groundwater basin. Another well, located approximately 0.66 miles east of the Russian River and one mile southwest of the project site, has been monitored by the DWR from 1989 to 2008. Readings from this well show an annual rise and fall of the groundwater level. However, the general trend for this well shows a constant groundwater level since 1992. These data indicate that, the closer a well is to the Russian River, the more likely it will be able to maintain a constant water supply. Due to the proximity to the Russian River and the positive

trends in groundwater levels, it is anticipated that the additional water demand from the Proposed Project from the Windsor water system would cause a less than significant impact to the Santa Rosa Basin.

### ***Wastewater Treatment and Disposal***

Estimated wastewater flows and loads from the Proposed Project and alternatives are summarized in **Table 4-2**. The Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS), and Total Kjeldahl Nitrogen (TKN) loads are estimated using typical literature values. The loads are also based on the assumption that a Septic Tank Effluent Pumping (STEP) pressure sewer system would be utilized. The STEP system is comprised of a pretreatment tank and a small submersible pump with a control panel located on each house (ECO:Logic, 2009a).

**TABLE 4-2**  
SUMMARY OF INFLUENT FLOW AND LOAD PROJECTIONS

<b>Parameter</b>	<b>Alternative A</b>	<b>Alternative B</b>	<b>Alternative C</b>
Flows (gallons per day)	63,600	63,600	24,600
STEP System Liquid Load (pounds per day)			
BOD	70	70	29
TSS	70	70	29
TKN	20	20	8
Source: ECO:Logic, 2009a			

The existing Windsor Wastewater Treatment, Reclamation, and Disposal Facility (WWTRDF) is located approximately three miles southeast of the project site. The processes used by the WWTRDF are described in **Section 3.0**. A sewage lift station and approximately 3,200 feet of force main would be constructed to pump the wastewater from the housing community to a manhole located near the intersection of Windsor River Road and Starr Road. Treated effluent from the WWTRDF is either reclaimed and used for irrigation on public and private landscapes or discharged into Mark West Creek, which eventually flows into the Russian River. The potential impacts to the surface water and groundwater quality are discussed below.

### ***Surface Water Quality***

The effluent from the WWTRDF that is not used for irrigation is discharged into Mark West Creek. The WWTRDF must comply with the provisions described in **Section 3.2.4**. According to the WWTRDF's National Pollutant Discharge Elimination System (NPDES) Permit Renewal, the WWTRDF has an excellent compliance history, with only five minor effluent limitation violations over the five-year lifespan of its permit. The additional discharge that would result from Alternative A would be approximately three percent of the existing WWTRDF daily capacity. This would not result in significant impacts to Mark West Creek or the Russian River.

Runoff from residential and community facility areas could transport debris, oil, sediments, and grease into adjoining surface waters, potentially affecting surface water quality. Increased runoff could create scouring and could impact riparian and aquatic habitats. The Tribe is required to

adhere to the provisions of the Clean Water Act (CWA). To reduce the effects of increased surface runoff volume and associated pollutants, the Tribe will comply with the terms of the General Construction NPDES permit and ensure that Best Management Practices (BMPs), such as those listed in **Section 2.0** and **Section 5.0**, are used to reduce the risk of soil erosion and polluted discharge. Construction activities could increase the potential for erosion to occur, which would increase silt loads of the Russian River. The recommended BMPs would significantly reduce erosion and minimize off-site sediment transport. The Tribe will prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) that will include practices that reduce potential surface water contamination during storm events. As discussed in **Section 5.0**, BMPs would be implemented through the SWPPP to reduce potential construction-related adverse impacts to surface waters to a minimal level.

### ***Groundwater Quality***

The treated effluent from the WWTRDF that is used for irrigation receives biological secondary treatment and ultraviolet (UV) disinfection. This has been deemed acceptable in the WWTRDF's NPDES permit. The additional discharge resulting from Alternative A would be approximately three percent of the existing WWTRDF daily capacity. This would not result in significant impacts to groundwater quality, because it is believed that the WWTRDF has sufficient treatment and disposal capacity to serve the Proposed Project (ECO:Logic, 2009).

## **4.1.3 AIR QUALITY**

### ***Significance Criteria***

A significant impact would occur if the project construction or operational emissions of the ozone precursors nitrogen oxide (NO<sub>x</sub>) or reactive organic gases (ROG) were to exceed *de minimis* levels as provided in Federal Conformity Regulations found at 40 CFR 93. Conformity *de minimis* levels for NO<sub>x</sub> and ROG are 100 tons per year (tpy). All other federal criteria air pollutants (CAPs) have attainment status in the San Francisco Bay Area Air Basin (SFBAAB). Under the Federal Conformity Regulations, project emissions of these CAPs would have a less-than-significant impact on regional air quality, as demonstrated below.

### ***Methodology***

Construction and operational emissions for Alternative A were estimated using URBEMIS 9.2.4, which is the latest air quality model approved by the California Air Resource Board (CARB) and the United States Environmental Protection Agency (USEPA). Construction and operational emissions were then compared to *de minimis* levels. A construction period of three years was assumed, with construction expected to begin in 2010. URBEMIS operational defaults were used. Trip generation rates used by the URBEMIS modeling program to determine air quality impacts were derived from the Institute of Transportation Engineers' Trip Generation Manual, 2007. The Trip generation rates used in the air quality analysis are consistent with the Traffic Impact Analysis (Abrams Associates, 2009) (**Appendix G**).

### Anticipated Air Quality Impacts

#### Construction Impacts

Construction of the Proposed Project would generate emissions of the six federal CAPs described in **Section 3.3.4**. Alternative A construction emissions were modeled using URBEMIS with the results presented in **Table 4-3**; URBEMIS output files are provided in **Appendix D**. The URBEMIS default construction equipment inventory was used, which is based on typical residential development construction. Construction assumptions include a maximum disturbance of 2.4 acres per day for site grading. Other construction assumptions include the implementation of construction BMPs to reduce emissions, as described in **Section 5.0**.

**TABLE 4-3**  
MITIGATED (UNMITIGATED) CONSTRUCTION EMISSIONS

Construction Year	ROG	NO <sub>x</sub>
	tons per year	
2010	1.37 (1.48)	7.25 (8.46)
2011	1.98 (2.86)	6.64 (7.70)
2012	1.86 (2.74)	6.26 (7.26)
2013	1.46 (2.33)	4.91 (5.70)
<b>Maximum Annual Emissions</b>	<b>1.98 (2.86)</b>	<b>7.25 (8.46)</b>
<i>De Minimis</i> Level	100	100
Significant	<b>No</b>	<b>No</b>
Source: URBEMIS, 2007.		

The generation of construction-related emissions is considered a short-term impact with a high nuisance potential, especially in regard to fugitive dust generation. The Proposed Project has been designed with BMPs that will reduce the potential for short-term dust impacts, as per the mitigation measures listed in **Section 5.0**. Short-term construction impacts would be less than significant even without the implementation of these measures; however, they are included to reduce impacts by the maximum amount feasible.

#### Operational Emissions

Operational emissions would primarily be associated with residential motor vehicle use. Area source emissions associated with landscaping maintenance equipment, space heaters, and water heaters would contribute to operational emissions and are included in **Table 4-4** under Area Sources. Based on residential trip generation rates and defaults for trip length, average trip speeds, and vehicle fleet composition as contained in the URBEMIS 9.2.4 modeling program, operational emissions were estimated for a build-out year of 2013. **Table 4-4** summarizes the total operation emissions, which would not exceed the federal *de minimis* levels. Therefore, this impact would be less than significant, and no mitigation is warranted. URBEMIS output files are provided in **Appendix D**.

**TABLE 4-4**  
UNMITIGATED OPERATIONAL EMISSIONS

Sources	ROG	NOx
	tons per year	
Area	1.83	0.35
Mobile	2.00	2.66
<b>Total Emissions</b>	<b>3.83</b>	<b>3.01</b>
<i>De Minimis Levels</i>	100	100
Significant	No	No
Source: URBEMIS, 2007.		

### *Climate Change*

The Proposed Project would emit greenhouse gases during construction and operation. Carbon dioxide (CO<sub>2</sub>) is the most prevalent greenhouse gas and is used as a measurement standard (CO<sub>2</sub> equivalent) for other greenhouse gases such as methane. For this project significance will be determined by compliance with applicable mitigation measures set forth by the California Attorney General. Mobile source CO<sub>2</sub> equivalent emissions were estimated at 4,657 tpy for construction and 2,967 tpy during operation of Alternative A. Mobile construction and operational CO<sub>2</sub> emissions were estimated using URBEMIS; output files are provided in **Appendix D**. N<sub>2</sub>O and CH<sub>4</sub> emissions from mobile sources were estimated using emission factors from the Climate Action Registry (CAR). Area source emissions for operation were estimated using CAR emission factors; operational emissions were estimated at 68 tpy of CO<sub>2</sub> equivalent. Total estimated project GHG CO<sub>2</sub> equivalent emission in the first year of construction and operation would be 7,624 tpy. Thereafter, project-related GHG emissions would be 2,967 tpy. Project-related emissions would be reduced by implementing the protective measures provided in **Section 2.0**. These measures include applicable mitigation measures provided by the California Attorney General. With implementation of the measures provided in **Section 2.0** and **Section 5.0**, there would be a less-than-significant impact to climate change.

## **4.1.4 BIOLOGICAL RESOURCES**

### *Significance Criteria*

Significant impacts to biological resources would occur if implementation of the Proposed Project would result in direct or indirect take of any federally protected species, including the destruction or degradation of any identified sensitive habitat.

### *Methodology*

The analysis of potential impacts is based on the existing biological setting, which is discussed in **Section 3.4**. The evaluation of biological resources impacts is based on a comprehensive examination of the existing project site and the anticipated extent of habitats, potentially jurisdictional waters of the U.S., native trees, and the presence/absence or potential occurrence of special-status species that would be impacted by each of the proposed alternatives.



## *Anticipated Impacts to Biological Resources*

### *Habitats*

The Proposed Project is likely to result in direct and/or indirect impacts (i.e., development) to the annual grassland, mixed oak woodland, oak savannah, and mixed riparian habitats onsite. Of these habitat types, oak woodland, oak savannah, and mixed riparian are generally considered sensitive. To the maximum extent possible, the Proposed Project has incorporated the mixed oak woodland, oak savannah, and riparian woodland habitats into the site design to minimize impacts to these habitats by adjusting the locations of lots and structures to avoid more pristine stands of woodlands and exceptionally large individual trees, maintain woodland corridors, and establish aesthetic woodland buffer regions around development areas. Potential impacts to these habitats (i.e., woodlands) are more specifically addressed below in the native tree section. Recommended protective measures within **Section 2.0** would reduce potential impacts to the mixed oak woodland and oak savannah habitats onsite to less than significant levels.

The Proposed Project is likely to result in direct and/or indirect impacts to the aquatic habitats (e.g., perennial drainage, ephemeral drainages, seasonal wetlands, and seasonal wetland swale) within the project site. Although the mixed riparian habitat is considered a terrestrial habitat, it is associated with the aquatic habitats because it surrounds two of the ephemeral drainages and the perennial drainage onsite (see **Figure 8** of **Appendix E**). The recommended mitigation measures for waters of the U.S. within **Section 5.0** would minimize the potential for direct and indirect impacts to the aquatic habitats, including the mixed riparian habitat, to less than significant levels.

The Proposed Project would also impact areas of ruderal/developed and pasturine habitat onsite. However, these habitat types are of little biological value because they provide minimal resources for native plant and wildlife species, given that they are already notably altered and/or developed. Thus impacts to the ruderal/developed and pasturine habitats within the project site are considered insignificant. **Table 4-5** provides a summary of the acreages of the habitat types impacted by the maximum build-out Alternative (Alternative B). Anticipated impacts for Alternative A are less than the table summarized below due to the smaller footprint of development in Alternative A (see **Section 2.0**).

Upon implementation of the protective measures and recommended mitigation measures provided in **Sections 2.0** and **5.0**, anticipated impacts to sensitive habitat types within the project site would be less than significant.

**TABLE 4-5**  
ANTICIPATED IMPACTS TO HABITAT TYPES

Habitat Type	Total Acres Within Project Site	Acreage Affected	Percentage of Habitat Affected
<b>Terrestrial Habitats</b>			
Annual Grassland	<b>5.488</b>	1.712	31.2
Mixed Oak Woodland	<b>50.451</b>	13.111	26.0
Oak Savannah	<b>8.019</b>	2.153	36.8
Mixed Riparian	<b>1.205</b>	0.046	3.8
Pasture	<b>13.605</b>	2.948	20.0
Ruderal/Developed	<b>10.403</b>	2.803	24.0
<b>Aquatic Habitats</b>			
Ephemeral Drainage	<b>0.167</b>	0.004	2.3
Isolated Pit	<b>0.022</b>	0.011	50.0
Seasonal Wetland	<b>0.476</b>	0.006	1.3
Seasonal Wetland Swale	<b>0.260</b>	0.032	12.3
Perennial Drainage	<b>0.040</b>	0.000	0
<b>TOTAL</b>	<b>90.136</b>	<b>22.826</b>	<b>25.32%</b>
Source: AES, 2009b. Acreage data rounded to three decimal places.			

#### *Waters of the U.S.*

The Proposed Project has the potential to result in direct and/or indirect impacts to the potentially jurisdictional waters of the U.S. within the project site. Direct impacts would include fill and/or discharge and indirect impacts would include sedimentation and/or modification of existing water quality. As discussed in **Section 3.4.4**, a formal wetland delineation has been conducted within the project site. The wetland delineation identified 0.856 acres of potentially jurisdictional wetland features within the project site; this delineation is subject to USACE verification (AES, 2009f). To the maximum extent feasible, the Proposed Project has been designed to eliminate direct impacts to waters of the U.S. by situating lots and structures away from wetland features. Upon implementation of the recommended mitigation measures described in **Section 5.0**, potential impacts to waters of the U.S., including the sensitive mixed riparian habitat, would be reduced to less-than-significant levels.

#### *Native Trees*

The Proposed Project has the potential to result in direct impacts (i.e., removal or damage) to native trees within the sensitive mixed oak woodland and oak savannah habitats onsite. **Table 4-6** estimates the total number of trees greater than nine inches DBH that would be directly impacted by each of the project alternatives, as well as the number and percentage of trees that would be preserved.

**TABLE 4-6**  
TREE IMPACT SUMMARY FOR EACH PROJECT ALTERNATIVE

Alternative	Approximate Number of Trees Impacted	Approximate Number of Trees Preserved	Percentage of Trees Preserved
A	1,949	2,174	53%
B	2,009	2,114	51%
C	1,564	2,559	62%
D	0	4123	100%

Source: AES, 2009.

Native trees within these two habitat types could also be indirectly impacted by construction activities because development practices often result in stress factors that leave native trees susceptible to further damage, limb and/or trunk failure, disease, decay, and increased susceptibility to insect infestations. Examples of indirect impacts to native trees caused by development practices include root death caused by oxygen deficiency in compacted or waterlogged soils, root death caused by soil changes associated with implementation of new structures or pavement, weakened resistance to disease, insect infestation from associated stress factors, and introduction of pathogens and insects to the habitat. Overcrowding of trees in the mixed oak woodland habitat on site has resulted in stressed growing conditions, which increases the potential for these indirect impacts, as well as creating a fire hazard. Upon implementation of the protective measures in **Section 2.0** and mitigation measures in **Section 5.0**, potential impacts to native trees would be reduced to less-than-significant levels.

#### *Special-Status Species*

##### Special-Status Plants

As previously discussed in **Section 3.4**, several federally listed plant species have potential to occur within the project site; however, none have actually been identified on the property despite repeated surveys. Listed species include Sonoma alopecurus, Sonoma sunshine, Burke's goldfields, Sebastopol meadowfoam, Pitkin Marsh lily, and many-flowered navarretia. All of these plant species, except Sonoma alopecurus and Pitkin Marsh lily, are addressed in the Santa Rosa Plain Conservation Strategy (USFWS, 2005a). The Proposed Project has the potential to result in direct impacts to special-status plant species should they occur within the project site. The Proposed Project could also result in indirect impacts to special-status plant species through loss of suitable habitat. Habitat loss is considered a significant impact to special-status plant species within the Santa Rosa Plain because a persistent seed bank may be present even if the special-status plant species has not been detected.

Determinant-level floristic surveys for potentially occurring special-status plant species (i.e., federal, state, and CNPS) have been conducted within the majority of the project site and no special-status plant species were observed (AES, 2009g). In addition, the floristic survey efforts were conducted in accordance with the Conservation Strategy protocol and occurred within the appropriate bloom periods for all potentially occurring special-status plant species. As previously mentioned, the Conservation Strategy protocol requires that three separate floristic surveys be

conducted within the project site, when at least one local reference population of the target special-status plant species is blooming, for two consecutive years (USFWS, 2005a). This requirement has been met for APN 066-300-031 and 066-300-033 since two consecutive years of floristic surveys, substantiating negative results, have been completed. One year of floristic surveys, substantiating negative results, has been completed on APNs 066-300-028, 066-191-017, 066-191-018, 066-191-020, and 066-191-022. Floristic surveys for these five project parcels will be totally completed by the end of the blooming period in 2010. Completely substantiated negative results are anticipated.

As mentioned above, under the Conservation Strategy, loss of any potential habitat for Sonoma sunshine, Burke's goldfields, Sebastopol meadowfoam, and many-flowered navarretia would be considered a significant impact. Implementation of the recommended mitigation measures outlined in **Section 5.0** would reduce potential impacts (i.e., loss of potential habitat) to special-status plant species within the Santa Rosa Plain to a less-than-significant level. If special-status plant species are observed within the project site during the floristic surveys yet to be conducted, implementation of the additional recommended mitigation measures would reduce any potential impacts to special-status plant species to a less-than-significant level.

#### Nesting Migratory Birds

The Proposed Project has potential to impact migratory nesting birds if construction activities occur during the nesting season (March through September). Activities associated with the Proposed Project, such as ground disturbance and vegetation removal, could impact nesting birds if their nests are located within development areas. Likewise, increased human activity and traffic, elevated noise levels, and operation of machinery could also impact nesting birds if their nests are located within the vicinity of development areas. Disturbance of this nature that occurs within 500 feet of an active nest could cause nest abandonment or premature fledging of the young. This would be a potentially significant impact. Upon implementation of the recommended mitigation measures in **Section 5.0**, potential impacts to migratory nesting birds would be reduced to a less than significant level.

### **4.1.5 CULTURAL RESOURCES**

This section identifies direct and indirect impacts to cultural and paleontological resources that would result from implementation of the Proposed Project.

#### *Archaeological Resources*

For historic properties, a significant adverse impact would result if implementation of the undertaking resulted in one of the following effects to cultural resources that are listed, or eligible for listing, on the National Register of Historic Places (NRHP):

- Physical destruction of or damage to all or part of the resource.
- Alteration of a resource.
- Removal of the resource from its historic location.

- Change of the character of the resource's use or of physical features within the resource's setting that contribute to its historic significance.
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the resource's significant historic features;
- Neglect of a resource that causes its deterioration.
- Transfer, lease, or sale of the property.

As part of the cultural resources study, a literature review, records search, Native American consultation, and pedestrian surveys for the presence of cultural resources were conducted within the project site. No potentially significant cultural resources were identified as a result of that effort. While three residences meeting the minimum age requirement for the NRHP are located within the project site, they do not rise to the level of significance necessary for consideration as historic properties. Therefore, no impacts to known historic properties would occur as a result of the undertaking.

There is always a possibility, however remote, that significant subsurface cultural resources may exist in the project site, as archaeological sites may be buried with no surface manifestation. In addition, there is a remote possibility that an unanticipated discovery of human remains could occur. Development proposed as a part of this undertaking may adversely affect previously unknown subsurface prehistoric or historic archaeological resources, including human remains. This would be a potentially significant impact.

Mitigation measures are presented in **Section 5.0** for the protection and treatment of unanticipated discoveries of archaeological resources and/or human remains. Implementation of these mitigation measures would reduce impacts to cultural resources to a less-than-significant level.

#### ***Paleontological Resources***

With respect to paleontological resources, an impact would be considered significant if it would directly or indirectly destroy such resources. As described in **Section 3.5.4**, indicators of paleontological resources within the project site are absent in the sources consulted, and no such resources were observed in the course of site reconnaissance visits in 2007, 2008, and 2009 by AES staff. Geologic formations that underlie the project site have a low probability of containing paleontological resources. Therefore, no impacts are expected.

There is always the possibility, however slight, that previously unknown paleontological resources could be encountered during construction activities. Mitigation measures are presented in **Section 5.0** for the protection and preservation of unanticipated discoveries of paleontological resources. Implementation of these mitigation measures would reduce impacts to paleontological resources to a less-than-significant level.

### **4.1.6 SOCIOECONOMIC CONDITIONS / ENVIRONMENTAL JUSTICE**

Alternative A would remove the seven project parcels totaling 92 acres from the County's property tax rolls, which would result in a loss of tax revenues. For the 2008-2009 tax year, the

property taxes for the seven proposed trust parcels total \$59,956.80. Property taxes for individual parcels for the 2008-2009 tax year are listed below:

- APN 066-191-017: \$2,095.28
- APN 066-191-018: \$0.00
- APN 066-191-020: \$5,040.14
- APN 066-191-022: \$1,294.52
- APN 066-300-028: \$7,474.66
- APN 066-300-031: \$27,834.56
- APN 066-300-033: \$16,217.64

The Sonoma County Tax Collector collected approximately \$690.6 million in property taxes for the 2008-2009 year. The tax on the project parcels was approximately 0.009 percent of the county's total tax revenue. In determining impacts to the County's tax base, the 0.009 percent loss in property taxes is diminutive, would not lead to any adverse physical effects, and therefore would not be significant under NEPA.

Because the Proposed Project would include the development of only 147 housing units, and because most of the children expected to live in these homes already live within Sonoma County, there would be no significant net increase in enrollment in local schools. Therefore, no adverse impacts to local school districts would occur, and no mitigation measures are warranted.

#### ***Environmental Justice***

This environmental justice analysis was prepared using guidance from the CEQ for compliance with Executive Order 12898. The intent of this evaluation is to determine whether the Proposed Project or alternatives would impose disproportionately high and adverse human health or environmental effects of (BIA's) programs, policies, and activities on minority populations and low-income populations.

The project site is located in a rural area with increased development occurring near the project site and no low-income or minority populations are located adjacent to or near the project site. The identified Native American population would not be subjected to disproportionately high or adverse human health or environmental impacts. The Proposed Project is not anticipated to create any adverse impacts with regard to environmental justice, and no mitigation measures are warranted.

### **4.1.7 TRANSPORTATION AND CIRCULATION**

#### ***Transportation Networks***

The Traffic Impact Study (Abrams Associates, 2009; **Appendix G**) was conducted for both existing and cumulative conditions. For both conditions the peak-hour trip generation of the Proposed Project was estimated based on information published in *Trip Generation* (Institute of

Transportation Engineers, 2003). **Table 4-7** summarizes the estimated a.m. and p.m. peak-hour trip generation of the Proposed Project.

**TABLE 4-7**  
PROPOSED PROJECT TRIP GENERATION ESTIMATES

		AM Peak-Hour Trips			PM Peak-Hour Trips		
Land Use	Size	In	Out	Total	In	Out	Total
Single Family Residential	147 Units	28	82	110	94	54	148
NET TOTAL		28	82	110	94	54	148
Source: Institute of Transportation Engineers, 2003; Abrams Associates, 2009							

The Proposed Project is estimated to generate a gross total of approximately 110 a.m. peak-hour trips (28 inbound and 82 outbound) and 148 p.m. peak-hour trips (94 inbound and 54 outbound).

Based on the standards in the Caltrans' Guide to the Preparation of Traffic Impact Studies, additional analysis of roadway segments and freeway facilities is not required. Caltrans requirements state that an environmental review should include any State Highway facility where more than 100 trips would be added or any State Highway facility operating at LOS C or LOS D where more than 50 trips would be added. Based on the trip generation for the Proposed Project, the project would add fewer than 50 trips to any one freeway segment. In addition, the intersection level of service (LOS) analysis indicates that the project would not cause any roadway segments to exceed capacity (**Appendix G**).

### ***Trip Distribution***

The distribution of project traffic for the Proposed Project was determined based on existing travel patterns and the nature of the roadway system serving the project site (**Appendix G**).

### ***Significance Criteria***

The Town of Windsor General Plan 2015 established the LOS standards for intersections within the Town limits. A LOS of D is the standard that applies to all intersections with the exception of the Project Intersection #9, which is identified as an intersection with an acceptable LOS of E (Town of Windsor, 1996). Sonoma County designates LOS D as a standard for intersection within their jurisdiction. Thus, each intersection operates acceptably according to the Town's and County's LOS standards.

None of the project intersections warrant installation of a traffic signal under existing conditions according to Caltrans standards.

### ***Background Plus Project Intersection Levels of Service***

Traffic generated by the Proposed Project was added to the background a.m. and p.m. peak-hour volumes based on the distribution percentages described above. **Table 4-8** summarizes the a.m. and p.m. peak-hour level of service (LOS) at each study intersection under background plus Proposed Project conditions. All project intersections are projected to continue to operate at LOS

D or better, with the exception of the Windsor River Road/NB US 101 Off-ramp-Lakeview Road intersection (Project Intersection #9), which is identified as an intersection with an acceptable LOS of E (Town of Windsor, 1996). Since the traffic generated by the Proposed Project would not deteriorate the LOS at current intersections in the vicinity of the project site to unacceptable Sonoma County or Town of Windsor standards, a less-than-significant impact to local intersections would result. No mitigation measures would be warranted.

**TABLE 4-8**  
LEVEL OF SERVICE SUMMARY FOR BACKGROUND PLUS PROJECT CONDITIONS

Intersection	Traffic Control	Background				Background plus Project			
		AM Peak		PM Peak		AM Peak		PM Peak	
		LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay
#1. Eastside Road and Windsor River Road	Stop Sign (Future)	B	10.1	B	10.1	B	10.2	B	10.2
#2. Windsor River Road and Project Entrance #1	Stop Sign (Future)	N/A	N/A	N/A	N/A	B	10.1	A	9.9
#3. Windsor River Road and Project Entrance #3	Stop Sign	A	9.7	A	9.5	B	10.8	B	11.1
#4. Windsor River Road and Starr Road	All-Way Stop	B	11.4	A	9.6	B	12.1	B	10.3
#5. Windsor River Road and Windsor Road	Traffic Signal	C-	32.0	C	23.1	C-	34.5	C	24.8
#6. Windsor River Road and Bell Road	Stop Sign	C	21.7	C	22.9	C	23.8	D	26.2
#7. Windsor River Road and Old Redwood Hwy	Traffic Signal	C	30.9	C-	32.5	C	31.7	D	41.8
#8. Windsor River Road and SB Hwy 101 Ramps	Traffic Signal	B	16.4	B	16.9	B	17.0	B	17.5
#9. Windsor River Road and NB Hwy 101 Off-Ramp – Lakeside Road	Traffic Signal	C	27.9	D-	53.6	C	28.2	E+	59.8
#10. Windsor River Road and Project Entrance #2	Stop Sign	N/A	N/A	N/A	N/A	A	9.4	A	9.4
Note: LOS- Level-of-Service Source: Abrams Associates, 2009									



### *Bicycle, Pedestrian, and Transit Networks*

The project would not generate a large number of new pedestrian trips, bicycling activity, or transit riders along Windsor River Road or the other public roads in the area. Thus, no significant impacts are projected to these networks as a result of the Proposed Project.

### **4.1.8 LAND USE**

The Proposed Project would result in the construction of 147 houses, a community center, a roundhouse, and a retreat. The development would be compatible with surrounding residential land uses, including a housing community located northeast of the site. Once the 92-acre site is brought into federal trust, the Sonoma County General Plan (2020) and Town of Windsor General Plan (2015) land use policies and standards would no longer apply to the project site. As similar uses currently occur in the surrounding area, effects to land use would be less than significant.

#### *Coastal Zone*

The project site is located outside of the Coastal Zone. There are no activities that would affect coastal resources. Measures proposed in **Section 2.0** and **Section 5.0** for management of stormwater runoff would reduce potential off-site impacts to a less than significant level.

#### *Agriculture*

The area proposed for the development of the housing community is located adjacent to agricultural operations. Proximity to agricultural operations could result in potential impacts associated with noise from farm equipment, dust, irrigation overspray, and other effects. However, the Sonoma County Right-to-Farm Ordinance would continue to protect neighboring farmers from potential nuisance suits.

Development of the project site would result in a loss of agricultural grazing land and farmland of local importance, as defined by NRCS. However, this land is currently wooded, nonirrigated and not in agricultural production. As discussed in **Section 3.8.3**, the project site did not receive a Farmland Conversion Impact Rating (FCIR) of 160 or above (**Appendix H**). Therefore, the impact to agriculture would be less than significant.

### **4.1.9 PUBLIC SERVICES**

#### *Water Supply*

The estimated ADD for Alternative A is 57 gpm (ECO:Logic, 2009a; **Appendix B**). Alternative A would obtain water through a connection with the Town of Windsor's public water supply system. As discussed in **Section 2.0**, the Town of Windsor maintains a water transmission main that parallels Windsor River Road (ECO:Logic, 2009a).

In order to connect to the existing municipal system, minimal facilities would be required. Two connections would be constructed into the project site from the existing 18-inch diameter water main in Windsor River Road. The meter at each connection would allow the Town of Windsor to

account for usage by the private water system. It is likely that there is sufficient flow and pressure in the existing water transmission main to supply water for both potable water service and fire protection (ECO:Logic, 2009a). No impacts would occur to the Windsor public water supply system, therefore no mitigation measures are warranted.

### ***Wastewater Service***

Wastewater from the Proposed Project would be conveyed to the Town of Windsor Wastewater Treatment, Reclamation, and Disposal Facility (WWTRDF) through the existing municipal sewer collection system. A sewage lift station and approximately 3,200 feet of force main would be constructed to pump the wastewater from the community to a manhole located near the intersection of Windsor River Road and Starr Road. The connection to the municipal wastewater system would result in the increase of wastewater treated by the WWTRDF by 63,600 gpd. The WWTRDF has sufficient treatment and disposal capacity to serve the Proposed Project. The Tribe would adhere to the local regulations, including the Town's Sanitary Sewer Management Plan, when planning and constructing sewer collection systems for the project site (ECO:Logic, 2009a). The WWTRDF would not experience any adverse impacts from the connection of the Proposed Project. No mitigation measures are warranted.

### ***Solid Waste***

Potential solid waste streams from construction would include paper, wood, glass, aluminum and plastics from packing materials; waste lumber; insulation; empty non-hazardous chemical containers; concrete; metal, including steel from welding/cutting operations; and electrical wiring. This impact is considered temporary and less than significant. Solid waste and recycling from the residences on the project site would be collected by Windsor Refuse and Recycling, or another similar company.

Assuming a disposal rate of 2.53 lbs/person/day (USEPA, 2007c), and 147 residences with an average household size of 2.61 persons (US Census Bureau, 2006), approximately 971 lbs of solid waste per day would be generated. As described in **Section 2.1**, the community center will house administrative offices with space for approximately 12 full-time equivalent employees. Public administration facilities typically dispose of 0.4 tons of solid waste per employee per year (California Integrated Waste Management Board [CIWMB], 2007c); therefore, the community center would generate approximately 49.2 tons of waste per year. The retreat and roundhouse will only be used by the community's residents on occasion; their contribution to solid waste is therefore minimal. Because most Tribal members that would be project residents and employees already live within the County, their net impact to the four private landfills used by Windsor Refuse and Recycling would not change and impacts would be less than significant.

### ***Electricity, Natural Gas, and Telecommunications***

Electrical and telephone infrastructure facilities are currently located on and near the project site. The Tribe will coordinate with Pacific Gas & Electric (PG&E) and AT&T regarding the extension of services to the project site. The project would use propane rather than natural gas, which it would contract directly from local supply companies in the area. No adverse utility service impacts would occur.

### ***Law Enforcement***

Under Public Law 280, 18 U.S.C. §1162, the State of California and other local law enforcement agencies have criminal enforcement authority on Tribal lands. The Sonoma County Sheriff's Department would provide law enforcement services to the project site. The planned facilities would result in a negligible increase in demands on the Department. Calls for service would not be disproportionate to other residential or commercial development in the County; therefore, no significant impacts would occur.

### ***Fire Protection and Emergency Medical Services***

Construction-related impacts include the potential fire threat associated with equipment and vehicles coming into contact with wildland areas. Construction vehicles and equipment such as welders, torches, and grinders may accidentally spark and ignite vegetation or building materials. The increased risk of fire during the construction of the proposed facilities would be similar to that found at other construction sites. Since the project site is in an area classified as a High Wildland Fire Zone, construction related impacts are considered potentially significant. With the implementation of the protective measures and mitigation measures described in **Section 2.0** and **Section 5.0**, respectively, impacts would be less than significant.

Current building and fire codes would be adhered to in relation to fire safety. Use of the site for residential purposes would create additional demand for fire protection, and require more frequent responses from local fire-fighting agencies. The project site is located in a State Responsibility Area, and the California Department of Forestry and Fire Protection (CAL FIRE) would be reimbursed for wildland protection services as specified in the Statewide Annual Operating Plan between the BIA and CAL FIRE, as provided for in the Cooperative Wildland Fire Management and Stafford Act Response Agreement (**Appendix I**). The Cooperative Agreement commenced in December 2007 and is active through December 2012. Impacts related to fire protection services would be less than significant.

Increased emergency calls to 911 as a result of the Proposed Project may result in slight delays in response times or result in the need for ambulances to be dispatched from more distant locations. Because several ambulance companies provide services in the area, and because new demands would be minimal, the increased demand for emergency medical services would not create a significant impact.

### ***Public Schools***

The Windsor Unified School District (WUSD) is located within the Healdsburg Planning Area (HPA) of the Sonoma County General Plan (2020). The General Plan projects that the baseline number of students (K-12) within the HPA will increase by 2.5 percent to 2,845 by the 2020 Plan year. New students entering the WUSD as a result of the Proposed Project would be negligible because most potential residents of the project site currently live within the County.

### *Parks and Recreation*

The Proposed Project would include recreation areas and multi-use trails for use by Tribal members. No adverse impacts would occur to local parks or recreational facilities.

## **4.1.10 NOISE**

### *Construction Noise*

Grading and construction activities associated with the Proposed Project would be intermittent and temporary in nature. The closest sensitive receptors that would be exposed to noise during project construction are the private residences located approximately 200 feet or more east and northeast of where the proposed construction activities would occur.

Construction noise levels at and near the Project Site would fluctuate depending on the particular type, number, and duration of uses of various pieces of construction equipment. Construction-related material haul trips would raise ambient noise levels along haul routes, depending on the number of haul trips made and types of vehicles used. **Table 4-9** shows typical noise levels 50 feet from the sources during different construction stages.

**TABLE 4-9**  
TYPICAL CONSTRUCTION NOISE LEVELS

Construction Phase	Noise Level (dBA, $L_{eq}$ ) <sup>*</sup>
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89
Notes: * Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase. $L_{eq}$ : the equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The $L_{eq}$ is the constant sound level which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).	
Source: Bolt, Baranek, and Newman, 1971	

Stationary point sources of noise attenuate (lessen) at a rate of 6 to 7.5 dBA per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions, topography and type of ground surfaces, noise barriers, etc.). The nearest sensitive receptors to construction noise are residences located approximately 200 feet from where construction activities would occur. The maximum construction noise would be 89 dBA at 50 feet, 82.5 dBA at 100 feet and 75 dBA at 200 feet. Construction noise impacts would be temporary, intermittent, and would occur between the hours of 7 a.m. and 6 p.m. According to the Federal Highway Administration (FHWA) guidelines, a 75 dBA noise level is acceptable during construction; therefore, noise from construction activities would be less than significant. It is important to note that the Project Site encompasses a large area and construction activities would not occur throughout the entire project site or all at once. Further reduction of construction noise impacts would occur with the implementation of measures outlined in **Section 5.0**.

### **Operation Noise**

The primary source of noise in the area is generated by traffic. As discussed in **Section 3.10**, an increase of 200 peak hour vehicle trips on a roadway would be necessary to cause a noticeable increase in the ambient noise level (FHWA, 2006). According to the traffic impact analysis (Abrams Associates, 2009) (**Appendix G**) and the discussion in **Section 4.1.7**, the Proposed Project would result in an increase of a maximum of 148 cars per peak hour on local roadways. Therefore, no audible increase in the ambient noise level would occur. The Proposed Project would not increase the existing ambient noise level (55 dBA) beyond the FHWA guideline of 65 dBA (**Section 3.10**). In addition, as discussed in **Section 2.0**, outdoor spaces of houses associated with the Proposed Project will be oriented to minimize noise levels for offsite residents in the vicinity of the project site. Consequently, there would be a less-than-significant impact resulting from noise during operation of the Proposed Project.

#### **4.1.11 HAZARDOUS MATERIALS**

No hazardous materials have been identified on site or within a distance that would affect the Proposed Project (AES, 2007b; 2008a; 2009d-e). As discussed in **Section 5.0**, the removal of all non-hazardous debris on the seven parcels will be completed before development begins on the project site.

During grading and construction it is possible that hazardous substances such as gasoline, diesel fuel, and hydraulic fluid, would be transported to the site. Temporary bulk aboveground storage tanks as well as storage sheds/trailers would likely be used by various contractors for fueling and maintenance purposes. As with any liquid and solid, the potential for an accidental release exists during handling and transfer from one container to another. Depending on the relative hazard of the material, the accidental release could pose both a hazard to construction employees as well as the environment. Although typical construction management practices limit and often eliminate the impact of such accidental releases, the potential exists with the temporary onsite storage of hazardous materials that a significant release could occur. This impact would be potentially significant. Mitigation measures are listed in **Section 5.11** that would reduce the impact to a less-than-significant level.

#### **4.1.12 VISUAL RESOURCES**

Impacts related to visual resources would be considered significant if the Proposed Project were to substantially alter or interrupt locally important scenic vistas, introduce visual elements that would conflict with the County's Rural Character Design Guidelines, or create sources of inappropriate or excessive glare or nighttime illumination.

The Proposed Project would result in the construction of a mixed-density residential development, community center, retreat, and roundhouse, as well as community infrastructure and amenities such as roads and bicycle/pedestrian pathways, and open space/parkland areas. Development of the project site would be completed in general conformance with Sonoma County's Rural Design Guidelines, and would complement existing rural residential development

in the project vicinity. The project would leave natural open space areas along Windsor River Road and Eastside Road in order to provide a transition between the development and other nearby rural and agricultural uses. Existing oak woodland vegetation and the topography of the site would minimize the visual prominence of the proposed housing and other buildings. The project would not be visible to travelers on Highway 101.

Single-family homes would be one to two stories, and would be located to take advantage of the natural site topography, exposure, and vegetation. Cottage homes would be smaller, attached (duplex) one-story buildings, also sited to preserve vegetation and minimize cuts/fill along slopes. Multi-family housing units would be two stories, with central shared “motor court” areas to maximize use of space while requiring minimum grading and paving. The higher-density areas of housing would be located toward the southern side of the property, away from public roadways, as would the community center and roundhouse facilities. Single-family houses would primarily be oriented toward the interior of the property, so that limited development would be visible to local residents or travelers on Eastside Road and Windsor River Road.

The Proposed Project would incorporate understated signage and safety lighting within public areas. All lighting at roadway intersections and in parking lots for the community center/roundhouse would be downcast and shielded, in accordance with “dark sky” principles. As stated in **Section 2.0**, light poles would be no more than 18 feet high and will be required to have cut-off lenses.

The Proposed Project would not interrupt or substantially alter local views, or create any sources of glare or excessive nighttime illumination. Development would generally conform to the appropriate Rural Design Guidelines, although once the property is taken into federal trust, the Sonoma County General Plan goals, objectives, and policies of the Open Space Element would no longer apply. Visual impacts would be less than significant and no mitigation measures would be warranted.

## **4.2 ALTERNATIVE B - ONSITE WATER AND WASTEWATER**

### **4.2.1 LAND RESOURCES**

Impacts related to soils under Alternative B would be similar to those described for Alternative A. However, additional grading and leveling would be needed to accommodate construction of the WRF that would be located in the northwest or southeast corner of the site. With the gentle slopes in this area, grading will result in less than significant impacts to topography. Approximately 3,000 cy of surplus fill would be generated by the project and would need to be disposed of either on site or off site. With the implementation of the protective measures listed in **Section 2.0** and the mitigation measures listed in **Section 5.0**, impacts to land resources would be less than significant.

## 4.2.2 WATER RESOURCES

### *Surface Water, Drainage, and Flooding*

Alternative B (**Figure 2-2**) has been designed to avoid the majority of water resources located on the site. As in the Proposed Project, a small man-made isolated pit would be filled. However, this pit is not considered a jurisdictional feature and filling it in would not result in a significant impact. Discussion of the surface waters found on the site is included in the Biological Assessment (**Appendix E**).

Alternative B would create approximately 21.4 acres of impervious services. As in the Proposed Project, increased impervious surfaces would result in increased peak flows and increased total discharge from the project site during wet weather events, which if not properly dealt with, has the potential to add increased stormwater flow to the area's drainage systems and result in localized flooding.

All of the proposed structures and facilities would be located outside of the Federal Emergency Management Agency (FEMA) 100-year floodplain; therefore, there would be no significant impacts due to flooding as a result of the Proposed Project.

### *Water Supply and Groundwater*

Because the number and size of residences and community buildings are equal to Alternative A, the projected water demands are equal to those summarized in **Table 4-1**. The projected ADD of this alternative is 82,300 gpd or 57 gpm. Under this alternative, water would be supplied through the development of on-site groundwater wells. Analysis of the test well results shows that a production well could sustain a continuous pumping rate of 75 gpm and could meet peak pumping rates of 150 gpm.

The water supply system would consist of at least two groundwater production wells, a water treatment facility sized to treat the maximum day demand design flow, a 400,000-gallon ground level storage tank with a booster pump station, and a backup power generator. This tank size would provide 300,000 gallons for fire flow storage and an additional 100,000 gallons for operational storage. Detailed descriptions of these facilities are provided in Section 2.4.2 of **Appendix B**. Both wells and associated facilities would be located in the northwestern portion of the project site as shown in **Figure 2-2** (ECO:Logic, 2009a).

As discussed in **Section 4.1.2**, the results from the DWR groundwater monitoring show that the basin has the overall capacity to accommodate the water demand generated by the proposed development. However, groundwater exploitation has the possible impact of lowering the water table. During the December 2008 well testing, two additional wells were used to monitor the impact of the test on wells in the vicinity. Analysis of the results from these monitoring wells shows that after continuously pumping a hypothetical production well for one year at a rate of 57 gpm, interference drawdown at the nearest existing well (located approximately 700 feet to the east) would be approximately 8.5 feet. This was calculated assuming that the existing well derives groundwater from the same strata as the test well, that there are no hydrologic boundaries

present that would isolate the existing well from the test well site, and that there is no recharge to the aquifer. At a distance of approximately 2,000 feet, drawdown was calculated to be approximately three feet. Assuming an aquifer thickness of 300 feet, the calculated drawdown represents only one to three percent of available drawdown. Estimated overall impacts to the aquifer as a result of Alternative B would not be significant (ECO:Logic, 2009a; 2009b), and impacts to neighboring wells would not occur.

### ***Wastewater Treatment and Disposal***

As summarized in **Table 4-2**, estimated wastewater flows and loads from Alternative B are equal to the Proposed Project. The wastewater will be conveyed to an onsite water reclamation facility (WRF) in either the northwest or southeast corner of the project site, where it will go through treatment before being discharged into either (1) an onsite drainage ditch along Windsor River Road that terminates at an abandoned quarry or (2) an onsite unnamed tributary of Windsor Creek which runs along the eastern border of the project site (**Figure 2-2**). During the periods when surface water discharge is prohibited, the water would be used for irrigation throughout the site.

Under both location/discharge options, the approximately 2.5-acre WRF would include: flow measurement, influent pumping, fine screening, equalization and emergency storage, secondary and tertiary treatment with membrane bioreactors (MBRs), UV disinfection, effluent pumping, onsite stormwater detention, solids handling facilities, and effluent disposal facilities. Detailed descriptions of these facilities are included in **Appendix B**. The onsite storage facility would be designed to hold a minimal amount of reclaimed water during irrigation season to achieve sufficient supply of reclaimed water.

As discussed in **Section 3.2.4**, no waters are allowed to be discharged into the Russian River or its tributaries between May 15 and September 30 or periods when the waste discharge flow is greater than one percent of the receiving stream's flow. Based on the monthly means shown in **Table 3-4**, the WRF would be permitted to discharge between November and May 14. The flows in October have, on average, been too low to allow for discharge by the WRF. The discharge of treated effluent from the WRF would not significantly impact the flows of the Russian River or its tributaries.

### ***Surface Water Quality***

Under this alternative, the WRF would be located in either the northwestern or southeastern portion of the site (**Figure 2-2**). The WRF would produce disinfected tertiary recycled water, which is allowed under Title 22 regulations to irrigate residential landscapes and parks. The proposed state-of-the-art WRF would use a three-step process that includes physical screening, MBR processing, and ultraviolet disinfection. MBR combines the biological and membrane filtration steps, in which organic and inorganic contaminants and nutrients present in the sewer water will be removed using microorganisms. The effluent is then filtered through the membrane filtration units. Effluent from the MBR would be exposed to UV light to inactivate pathogenic microbes including viruses. The exact mineralogical and chemical composition of the effluent is not yet known and would depend primarily on the mineral and chemical makeup of the potable water supply and the mineral and chemical use practices of future residents (ECO:Logic, 2009a).



Effluent from the WRF would be totally safe for landscape irrigation, other non-potable uses, and accidental exposures. Under Alternative B, WRF effluent would be utilized for irrigating common areas, front yards, parks, and playgrounds. Effluent not used for irrigation in winter would be discharged to either of the onsite drainages mentioned above, depending on the final location of the WRF.

A NPDES permit would be obtained prior to any discharge of tertiary treated effluent into a tributary of the Russian River, as described in **Section 5.0**. As conditions of this permit, effluent would be monitored for various chemical and physical constituents prior to discharge, including ammonia, biological oxygen demand, nitrate, total dissolved and suspended solids, pH, dissolved oxygen, total coliform bacteria, oil and grease, and whole effluent toxicity (ECO:Logic, 2009a). The Tribe would fully comply with the terms and conditions of the NPDES permit; therefore, the water quality impacts to the Russian River and its tributaries would be less than significant.

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

During the summer, treated effluent would be used for landscape irrigation, which could increase the concentrations of nitrogen and salinity in the localized groundwater, if the irrigation water is not properly treated and applied.

The proposed WRF includes a nitrogen-reduction process that would reduce the average nitrogen concentration in its effluent to less than 10 milligrams per liter (mg/l). Under this alternative, up to 23 million gallons (Mgal) of effluent would be applied annually to 30 acres of land on the project site. This would result in a nitrogen application rate not exceeding 65 pounds per acre per year (lbs/ac/year), which is 200 to 300 lbs/acre/year less than the typical nitrogen fertilization rate for turf grass. Degradation of groundwater from nitrogen would not result from the use of effluent to irrigate the project site (ECO:Logic, 2009a).

The preliminary estimate of salinity of the reclaimed water from the WRF (as applied to the land) is approximately 550 mg/L total dissolved solids (TDS). This estimation takes into account the salinity of the source water, the estimated added salinity from the consumptive use of the water, and the estimated added salinity from the treatment and storage of the water. Although no total maximum daily loads (TMDLs) have been set by the North Coast RWQCB or the USEPA with regard to TDS for the Santa Rosa Plain groundwater sub-basin (NCRWQCB, 2007), degradation of groundwater from increased salinity could result from the use of effluent to irrigate the project site. The recommended mitigation measures in **Section 5.0** would reduce this potential impact to a less-than-significant level.

Concentrations of arsenic (0.058 mg/L) and manganese (0.015 mg/L) in water from the on-site test well do not meet California or Federal drinking water standards. The water treatment plant, described in Section 2.4.2 of **Appendix B**, would treat these two constituents such that there would be no public health impact associated with consumption of this groundwater.

### 4.2.3 AIR QUALITY

Under Alternative B, the significance criteria and methodology used to analyze impacts to air quality are the same as those used for Alternative A. Project components of Alternative B that would result in emissions of CAPs and greenhouse gases would be same as Alternative A. Both construction and operational emissions under Alternative A are considerably less than *de minimis* levels; these emissions would be similar under the construction and operation of Alternative B. Therefore, impacts to air quality under Alternative B would be less than significant.

Alternative B includes a wastewater treatment facility, which has the potential to emit odors. The wastewater treatment facility would incorporate an active odor control system, consisting of a packaged biofilter with an active carbon absorption unit, as described in **Section 2.0**. In general, the odor control system will vacuum air off the headworks and blow it through the biofilter and carbon absorption unit before exhausting the treated air (refer to Wastewater Feasibility Study provided as **Appendix B**). The result of the active odor control system would be the minimal release of odors; therefore, a less than significant impact would occur due to odor.

### 4.2.4 BIOLOGICAL RESOURCES

Under Alternative B, the significance criteria and methodology used to analyze impacts to biological resources are the same as those utilized for Alternative A.

#### *Anticipated Impacts to Biological Resources*

Impacts to biological resources under Alternative B would be similar to those described for the Proposed Project, Alternative A. However, under Alternative B, treated effluent from the onsite wastewater treatment facility would be used for irrigation during the summer and discharged during the winter pursuant to a NPDES permit that would be issued by the USEPA. The Tribe would fully comply with the terms and conditions of the permit.

Treated effluent would either be discharged into an onsite drainage that flows into the roadside drainage ditch along Windsor River Road or into an unnamed tributary located along the eastern boundary of the project site, which flows into Windsor Creek south of the project site.

The habitat quality observed in the unnamed tributary to Windsor Creek is minimally suitable for a suite of regionally occurring common and sensitive freshwater species typically found within the Russian River hydrologic unit (AES, 2009b) (**Appendix E**). Many of the streams tributary to and associated with the lower Russian River have the potential to support special status species such as steelhead trout, Chinook salmon, and Coho salmon. As shown in **Figure 5** of **Appendix E**, the documented natural limit to anadromy is just above the Trenton Healdsburg Bridge crossing on Mark West Creek, far downstream of the potential discharge point and near the Town of Windsor's existing wastewater effluent discharge point. Migratory fish species have no potential to occur on or within the vicinity of project site and any fish in the lower reaches of Mark West Creek would not be significantly impacted by treated effluent from the project site. The unnamed stream was dominated by fine sediments and contained no large substrates. It supported no diversity in flow regime habitat as the gradient was below 1% and the reach was

saturated by both fine and coarse particulate organic decomposing matter. This has created a very anoxic and narrow niche for macroinvertebrates, leading to low species richness. Very few invertebrates other than mosquito larvae were observed during the survey. Species richness is an indicator of relative stream health and niche availability, and can be the basis for a multitude of biological assumptions and hypotheses. Overall, the biological suitability for this stream is lacking. Additionally, there are potential water quality impacts to the unnamed tributary from the residential development to the north. Stormwater from the residential development is assumed to flow into the unnamed tributary through the culverts. A tertiary treated effluent wastewater discharge could potentially benefit the water quality in this stream (AES, 2009b).

The unnamed drainage channel that extends from the northwest corner of the property to the abandoned quarry is best characterized as a roadside ditch. Although this channel initiates flow from two ephemeral drainages and supports a dominant gravel substrate base, it does not contain the habitat suitability, surficial connection, vegetative cover, or flow duration that would support a significant number of commonly occurring local aquatic species. It receives flashy roadside runoff during rain events that may contribute petroleum based pollutants due to this influence. No aquatic species were observed during the survey. Potential impacts from a tertiary treated effluent wastewater discharge would be negligible in this drainage channel (AES, 2009b).

As indicated in **Table 4-6**, Alternative B would result in impacts to 2,009 native trees. It would also result in potentially significant impacts to special-status plants or their habitats, and nesting migratory birds. Implementation of all the protective measures listed in **Section 2.0** and the recommended mitigation measures in **Section 5.0** would reduce significant impacts to all of the potentially affected biological resources within the project site to less-than-significant levels.

#### **4.2.5 CULTURAL RESOURCES**

Alternative B would be similar to the Proposed Project. However, associated water and wastewater facilities would be constructed. Because there are no known cultural resources on site, the only potential impacts would be to unknown archaeological and paleontological resources which may be unearthed during the construction process. Mitigation recommended in **Section 5.0** would apply to Alternative B, to reduce these potential impacts to a less-than-significant level.

#### **4.2.6 SOCIOECONOMIC CONDITIONS/ ENVIRONMENTAL JUSTICE**

Alternative B is similar to the Proposed Project. Under this alternative the socio-economic benefits to the Tribe would be equal, when compared with the Proposed Project. Overall the Tribe would benefit from the construction of 147 residences. Sonoma County would lose minor revenue from property taxes after the site is taken into trust. This loss of revenue would be a small fraction of total County tax revenues, would not lead to any adverse physical effects, and therefore would not be significant under NEPA.

### *Environmental Justice*

The impacts to low-income and minority populations for Alternative B are the same as for the Proposed Project. No adverse health or environmental impacts to low-income and minority populations would occur as a result of Alternative B. Low income and minority populations would not be disproportionately adversely affected and there would be no effect with regards to environmental justice for adjacent and close-proximity residents. Alternative B would not create any adverse impacts with regard to environmental justice.

## **4.2.7 TRANSPORTATION AND CIRCULATION**

### *Trip Generation and Distribution*

The a.m. and p.m. peak-hour trip generation for Alternative B was estimated using factors from the ITE Trip Generation manual. The trip generation figures are summarized in **Table 4-10**. As shown, this alternative will generate an estimated total of 110 trips in the a.m. peak hour (28 inbound and 82 outbound) and 148 trips in the p.m. peak hour (94 inbound and 54 outbound). Project-related trips were assigned to the local roadway network as described in **Appendix G**.

**TABLE 4-10**  
ALTERNATIVE B TRIP GENERATION ESTIMATE

Land Use	Size	AM Peak-Hour Trips			PM Peak-Hour Trips		
		In	Out	Total	In	Out	Total
Single Family Residential	147Units	28	82	110	94	54	148
NET TOTAL		28	82	110	94	54	148
Source: Abrams Associates, 2009							

### *Significance Criteria*

The significance criteria would be the same as described under the Proposed Project, described **Section 4.1.7**.

### *Background Plus Project Intersection Levels of Service*

The a.m. and p.m. peak-hour traffic volumes generated by Alternative B are the same as those expected under the Proposed Project. It is assumed that, as under the Proposed Project scenario, all intersections would continue to operate at acceptable LOS D (**Table 4-8**) with the exception of the Windsor River Road/NB US 101 Off-ramp-Lakeview Road intersection, which is defined as an exception under Town of Windsor General Plan 2015. Therefore, this impact would be less than significant.

### *Bicycle, Pedestrian, and Transit Networks*

Alternative B would not generate substantial increases in bicycling activity, pedestrian activity, or transit riders. Impacts in these areas would be less than significant. Alternative B would not affect any planned pedestrian or bicycling networks.

## 4.2.8 LAND USE

Development of Alternative B would include 147 residences, community buildings, and associated water and wastewater facilities. Remaining land would be preserved as open space. The development would be compatible with surrounding land uses in that there are residential, agricultural, and commercial uses near the project site. As similar uses occur in the vicinity, effects to land use would be less than significant.

### *Coastal Zone*

The project site is located outside of the Coastal Zone. Similar to the Proposed Project, there are no activities that would affect coastal resources.

### *Agriculture*

Implementation of Alternative B would not result in any significant agricultural resource impacts, similar to the Proposed Project.

## 4.2.9 PUBLIC SERVICES

### *Water Supply*

Under Alternative B the project site would obtain water through the development of onsite groundwater sources. This option would have no impact on municipal water supplies. The water demands and potential effects to other groundwater wells are discussed in **Section 4.2.2**.

### *Wastewater Service*

Under this Alternative, wastewater would be treated onsite at the proposed treatment plant and discharged to (1) a drainage ditch along Windsor River Road that terminates at an abandoned quarry or (2) an unnamed tributary of Windsor Creek which runs along the eastern border of the project site (see **Figure 2-2**). During the periods when surface water discharge is prohibited, the water would be used for irrigation throughout the site. Because an NPDES permit would be obtained prior to any discharge of tertiary treated effluent into a tributary of the Russian River, and because the Tribe would fully comply with the terms and conditions of the permit, the impacts to the Russian River and its tributaries would be less than significant. The construction and operation of the onsite WRF would not impact existing municipal treatment facilities.

### *Solid Waste*

Construction waste would be generated and would consist of the same materials described previously under the Proposed Project. This impact would be temporary and less than significant. Solid waste and recycling from the residences on the project site would be collected by Windsor Refuse and Recycling, or another similar company. Generation rates are essentially equal to those of the Proposed Project; impacts to solid waste would be less than significant.

### ***Electricity, Natural Gas, and Telecommunications***

Electrical, natural gas, and telephone services are the same as those described for the Proposed Project. The Tribe will coordinate with PG&E and AT&T regarding the extension of services to the project site. The project would use propane rather than natural gas, which would be contracted directly from local supply companies in the area. No adverse utility service impacts would occur under Alternative B.

### ***Law Enforcement***

Under Public Law 280, the State of California and other local law enforcement agencies have criminal enforcement authority on Tribal lands. The Sonoma County Sheriff's Department would provide law enforcement services to the project site. Calls for service would not be disproportionate to other residential or commercial development in the County. No significant impacts to law enforcement services would occur from implementation of Alternative B.

### ***Fire Protection and Emergency Medical Services***

The increased risk of fire during the construction of the proposed facilities would be similar to that found at other construction sites. Because the project site is in an area classified as a High Wildland Fire Zone, construction-related impacts would be potentially significant. With the implementation of the protective measures listed in **Section 2.0** and the mitigation measures listed in **Section 5.0**, impacts to fire protection and emergency medical services would be less than significant.

Current building and fire codes will be adhered to in relation to fire safety. The additional demand for fire protection and emergency medical services under Alternative B would be similar to that of the Proposed Project. Due to the existing agreements and availability of emergency medical services, the impact to emergency services would be less than significant.

### ***Public Schools***

As described in **Section 4.1.9**, Sonoma County has set forth policies that would accommodate for the minor increase in students within the HPA. No significant impacts to public schools would occur.

### ***Parks and Recreation***

Alternative B would include recreation areas and multi-use trails for use by Tribal members. No adverse impacts would occur to local parks or recreational facilities.

## **4.2.10 NOISE**

With the implementation of Alternative B, construction activity noise (which is considered intermittent and temporary in nature) would be similar to Alternative A. Although construction noise impacts from Alternative A would be less than significant, implementation of the protective measures presented in **Section 2.0** would reduce noise impacts by the maximum extent feasible.

These same mitigation measures would be applied to Alternative B, ensuring a less-than-significant impact due to construction noise.

The primary source of operational noise generated by Alternative B would be traffic on Windsor River Road and project roadways, as well as occasional and intermittent noise from the proposed WRF. Vehicle trips generated during the peak AM and PM hours would be the same as those described under Alternative A (maximum of 148 vehicle trips per peak hour). The existing noise environment is approximately 55 decibels (dB). The WRF operational noise would not be noticeable at any on-site or off-site residences. Similar to Alternative A, Alternative B would generate less than a 3 dBA increase in noise, thus impacts to the ambient noise environment would be less than significant. Implementation of the protective measures presented in **Section 2.0** would further reduce noise impacts to offsite residents in the vicinity of the project site.

#### **4.2.11 HAZARDOUS MATERIALS**

As discussed in **Section 4.1.11**, there are no identified hazardous materials on site or within a distance that would affect Alternative B. During construction of any development it is possible that hazardous materials, such as gasoline, diesel fuel, and hydraulic fluid, would be brought on site in temporary aboveground storage tanks. Additionally, the proposed WRF may use hazardous materials such as sodium hypochlorite and citric acid. The use and storage of hazardous materials is considered potentially significant. Mitigation measures are listed in **Section 5.0**; implementation of these measures would ensure a less-than-significant impact under Alternative B.

#### **4.2.12 VISUAL RESOURCES**

Alternative B would result in the construction of a residential development and community facilities and amenities similar to Alternative A, with the addition of on-site water and wastewater treatment facilities. Development of all facilities on the project site would generally be completed in conformance with Sonoma County's Rural Design Guidelines, and would complement existing rural residential development in the project area. As described in the analysis of Alternative A (**Section 4.1.12**), the project would leave natural areas along Windsor River Road in order to provide a transition to the nearby rural and agricultural uses. Topography of the site and oak woodland vegetation would also limit views of the property from the surrounding sensitive visual receptors and travelers on local roadways. Alternative B would include additional trees, shrubs, and vegetation to further screen views of the proposed wastewater facilities. Lighting from public areas would be the minimum required for safety and security, and would consist of shielded, downcast lights on poles not more than 18 feet high. As with Alternative A, visual impacts would be less than significant.

## 4.3 ALTERNATIVE C - REDUCED INTENSITY WITH ONSITE WATER AND WASTEWATER

### 4.3.1 LAND RESOURCES

Environmental consequences under the Reduced-Intensity Alternative would be less than those described for Alternatives A and B. This includes impacts with regard to soils. As discussed in **Section 2.3**, this Alternative would result in 1,700 cy of surplus soil which would be either used onsite or deposited offsite at an approved location. With the implementation of the protective measures listed in **Section 2.0** and the mitigation measures listed in **Section 5.0**, impacts to land resources would be less than significant.

### 4.3.2 WATER RESOURCES

#### *Surface Water, Drainage, and Flooding*

Alternative C (**Figure 2-3**) has been designed to avoid the majority of water resources located on the site. No existing surface waters would be disrupted due to Alternative C.

The Reduced-Intensity Alternative would result in fewer impervious surfaces than the Proposed Project or Alternative B, which would lessen the resulting runoff flow. Housing, community buildings, and roads would create approximately 18.1 acres of impervious surfaces. No significant impacts to surface water or drainage would occur. The protective measures and BMPs described in **Section 2.0** would also be implemented for Alternative C.

As with the Proposed Project, the all project components would be located completely outside of the 100-year floodplain. Impacts related to flooding would be less than significant.

#### *Water Supply and Groundwater*

The ADD for this alternative would be 31,700 gpd or 22 gpm. Under the Reduced-Intensity Alternative water would be supplied through the development of wells similar to those described in **Section 4.2.2**. Due to the reduced ADD, the impacts to the water basin and neighboring wells would be less than Alternative B.

#### *Wastewater Treatment and Disposal*

Estimated wastewater flows and loads for Alternative C are summarized in **Table 4-2**. The WRF for this alternative would be located in the southern portion of the project site and have the same treatment components as described for Alternative B (see **Figure 2-3**). The WRF would implement the BMPs listed in **Section 2.0** to improve the quality of effluent being discharged. Depending on the time of year the effluent would either be used for irrigation throughout the site or pumped into a storage basin. Alternative C requires a 4.8 Mgal 100-year effluent storage basin and 11.7 acres of irrigation land to accommodate 100-year flood flows. The storage facility would be located adjacent to the WRF. This effluent disposal method would not be limited by soil types, depths, and slopes on the property.



### *Surface Water Quality*

No treated effluent would be discharged into surface waters under this alternative. This alternative would include preparation and implementation of a SWPPP and BMPs, including those listed in **Section 2.0**, to ensure that impacts to surface waters are minimized. Because no treated effluent would be discharged into surface waters, no NPDES permit would be required, and the impact to surface waters would be less than significant.

### *Groundwater Quality*

The WRF would discharge effluent by using it for onsite irrigation during the summer months. As described in **Section 4.2.2**, the possible impacts to groundwater quality would be caused by increased nitrogen and salinity due to irrigating the property with treated effluent generated by Alternative C. The nitrogen-reduction process for the WRF for the Reduced-Intensity Alternative would be the same as for Alternative B and degradation to groundwater from nitrogen would not occur. Implementation of the recommended mitigation measures in **Section 5.0** would reduce significant impacts associated with increased salinity to less-than-significant levels.

## 4.3.3 AIR QUALITY

Under the Reduced-Intensity Alternative, the significance criteria and methodology used to analyze impacts to air quality would be the same as those used for Alternative A.

### *Anticipated Air Quality Impacts*

#### *Construction Impacts*

Construction of the Reduced-Intensity Alternative would generate the CAPs described in **Section 3.3.4**. Construction emissions for Alternative C were modeled using URBEMIS 9.2.4, with the results presented in **Table 4-11** and URBEMIS output files provided in **Appendix D**. The URBEMIS default construction equipment list was used, which is based on typical residential construction. Assumptions include a maximum disturbance of 2.4 acres per day for site grading, and other construction assumptions similar to those listed for Alternative A.

**TABLE 4-11**  
MITIGATED (UNMITIGATED) CONSTRUCTION EMISSIONS:  
REDUCED-INTENSITY ALTERNATIVE

Construction Year	ROG	NOx
	tons per year	
2010	1.31 (1.35)	7.03 (8.24)
2011	1.64 (1.97)	6.24 (7.29)
2012	1.53 (1.86)	5.90 (6.90)
2013	1.18 (1.51)	4.687(5.46)
<b>Maximum Emission</b>	<b>1.64 (1.97)</b>	<b>7.03 (8.24)</b>
<i>De Minimis</i> Level	100	100
Significant	No	No
Source: URBEMIS, 2007		

The generation of construction-related emissions is considered a short-term impact with a high nuisance potential, especially in regards to fugitive dust generation. The Reduced-Intensity Alternative has been designed with BMPs that will reduce the potential for short-term dust impacts, as per the description in **Section 2.0**. Short-term construction impacts would be less than significant even without the implementation of these measures; however, they are included to reduce impacts by the maximum amount feasible.

#### *Operational Emissions*

Operational emissions would primarily be associated with residential motor vehicle use. Area source emissions associated with landscaping maintenance equipment, space heaters, and water heaters would contribute to operational emissions; these are included in **Table 4-12** under Area Sources. Based on residential trip generation rates and defaults for trip length, average trip speeds, and vehicle fleet as presented in the URBEMIS 9.2.4 modeling program, operational emissions were estimated for a build-out year of 2013. **Table 4-12** summarizes the operational emissions, which would not exceed the federal *de minimis* levels. This impact would be less than significant, therefore no mitigation is warranted. URBEMIS output files are provided in **Appendix D**.

**TABLE 4-12**  
UNMITIGATED OPERATIONAL EMISSIONS:  
REDUCED-INTENSITY ALTERNATIVE

Sources	ROG	NO <sub>x</sub>
	tons per year	
Area	0.68	0.13
Mobile	0.75	0.99
<b>Total Emissions</b>	<b>1.43</b>	<b>1.12</b>
<i>De Minimis</i> Levels	100	100
Significant	<b>No</b>	<b>No</b>
Source: URBEMIS, 2007		

#### *Climate Change*

Mobile source CO<sub>2</sub> equivalent emissions were estimated at 3,442 tpy for construction and 1,110 tpy for operations (see **Appendix D**). Area source emissions for operation were estimated using Climate Action Registry emission factors; these emissions were estimated at 36 tpy of CO<sub>2</sub> equivalent. The implementation of protective measures presented in **Section 2.0** would reduce project emissions and result in a less-than-significant impact to climate change.

#### *Odor*

Alternative C would incorporate a WRF similar to Alternative B. The odor control system outlined under Alternative B and included as a protective measure in **Section 2.0** would be incorporated in the WRF under Alternative C; therefore, a less-than-significant impact would occur due to odor.

#### 4.3.4 BIOLOGICAL RESOURCES

Under the Reduced-Intensity Alternative, the significance criteria and methodology used to analyze impacts to biological resources are the same as those utilized for Alternatives A and B. The project components of Alternative C are similar to Alternative B, although this Alternative contains fewer residential units and has a slightly different overall configuration.

##### *Anticipated Impacts to Biological Resources*

Environmental consequences under Alternative C would be similar to those described for Alternative B, although Alternative C contains fewer residential units. As such, Alternative C would result in proportionally lessened, but still potentially significant impacts to the mixed oak woodland, oak savannah, mixed riparian, and aquatic habitats. It would also result in potentially significant impacts to waters of the U.S., 1,564 native trees (as per **Table 4-6**), special-status plants or their habitats, and nesting migratory birds. Implementation of all the protective measures listed in **Section 2.0**, as well as the recommended mitigation measures in **Section 5.0**, would reduce significant impacts to all of the potentially affected biological resources within the project site to less-than-significant levels.

#### 4.3.5 CULTURAL RESOURCES

Impacts to cultural resources would be the same as in Alternatives A and B. Since there are no known cultural resources on site, the only potential impacts are to unknown sites which may be unearthed during the construction process. Mitigation is recommended in **Section 5.0** to reduce potential impacts to a less-than-significant level.

#### 4.3.6 SOCIOECONOMIC CONDITIONS / ENVIRONMENTAL JUSTICE

The Reduced-Intensity Alternative is similar to Alternative B; however, it includes fewer housing units. Under this alternative the socio-economic benefits to the tribe would be reduced when compared with the Proposed Project and Alternative B, because there would be less housing available for Tribal members who wish to live in a cohesive community. Overall, however, the Tribe would still benefit from the construction of 55 residences. The County would lose minor revenue from property taxes after the site is taken into trust. This loss of revenue would not lead to any adverse physical effects, and therefore would not be significant under NEPA as per the discussion under **Section 4.1.6**.

##### *Environmental Justice*

The impacts to low-income and minority populations from the Reduced-Intensity Alternative would be the same as for Alternative B. No adverse health or environmental impacts to low-income and minority populations would occur as a result of the Reduced-Intensity Alternative. Low income and minority populations will not be disproportionately adversely affected and there would be no effect with regards to environmental justice for adjacent and close-proximity residents. This alternative is not anticipated to create any adverse impacts with regard to environmental justice.

## TRANSPORTATION AND CIRCULATION

### *Trip Generation and Distribution*

The a.m. and p.m. peak-hour trip generation for Reduced-Intensity Alternative was estimated using factors from the Institute of Transportation Engineers (ITE) Trip Generation manual. The trip generation figures are summarized in **Table 4-13**. As shown, this alternative would generate an estimated total of 41 trips in the a.m. peak hour (10 inbound and 31 outbound) and 56 trips in the p.m. peak hour (36 inbound and 20 outbound). Reduced-Intensity Alternative traffic would create a minimal addition to local traffic numbers and patterns.

**TABLE 4-13**  
REDUCED-INTENSITY ALTERNATIVE TRIP GENERATION ESTIMATE

		AM Peak-Hour Trips			PM Peak-Hour Trips		
Land Use	Size	In	Out	Total	In	Out	Total
Single Family Residential	55 Units	10	31	41	36	20	56
NET TOTAL		10	31	41	36	20	56
Source: Abrams Associates, 2009							

The distribution of the trips associated with Reduced-Intensity Alternative is expected to be approximately the same as the distribution calculated for the Proposed Project (**Appendix G**).

### *Significance Criteria*

The significance criteria are the same as described under the Proposed Project (**Section 4.1.7**).

### *Background Plus Project Intersection Levels of Service*

The a.m. and p.m. peak-hour traffic volumes generated by this alternative would be less than those under the Proposed Project. It can be assumed that, as under the Proposed Project, all intersections would continue to operate at acceptable LOS D (**Table 4-8**) with the exception of the Windsor River Road/NB US 101 Off-ramp-Lakeview Road intersection, which is defined as an exception under Town of Windsor General Plan. This impact would therefore be less than significant, and no mitigation is warranted.

### *Bicycle, Pedestrian, and Transit Networks*

The Reduced-Intensity Alternative would not generate substantial increases in bicycling activity, pedestrian activity, or transit riders. Impacts in these areas would be less than significant. The Reduced-Intensity Alternative would not affect any planned pedestrian or bicycling networks.

## 4.3.8 LAND USE

Development of the Reduced-Intensity Alternative would include 55 residences, community facilities, and associated water and wastewater facilities. Remaining land would be open space. The development would be compatible with surrounding land uses in that there are residential,

agricultural, and commercial uses near the project site. As similar uses occur in the area, effects to land use would be less than significant.

#### ***Coastal Zone***

The project site is located outside of the Coastal Zone. Similar to the Proposed Project, there are no planned activities that would affect coastal resources.

#### ***Agriculture***

Implementation of the Reduced-Intensity Alternative would not result in any significant agricultural resource impacts, similar to the Proposed Project.

### **4.3.9 PUBLIC SERVICES**

#### ***Water Supply***

The Reduced-Intensity Alternative would obtain water through the development of onsite groundwater wells. This option would have no impact on municipal water supplies. The proposed alternatives, demands, and potential effects to other groundwater wells are discussed in **Section 4.2.2**.

#### ***Wastewater Service***

Under this alternative, wastewater would be treated onsite at the proposed treatment plant and utilized for landscape irrigation during the dry season. The potential impacts to water quality are discussed in **Section 4.2.2**. The construction and operation of the onsite WRF would not impact the existing municipal treatment facilities.

#### ***Solid Waste***

Construction waste would consist of the same materials described previously under the Proposed Project; however, due to the reduced number of residences, less construction waste would be generated under Alternative C. This impact is considered temporary and less than significant. Solid waste and recycling from the residences on the project site would be collected by Windsor Refuse and Recycling, or another similar company.

Assuming a disposal rate of 2.53 lbs/person/day (USEPA, 2007c), and 55 residences with an average household size of 2.61 persons (US Census Bureau, 2006), 363 lbs of solid waste per day would be generated. The amount of solid waste generated by the community buildings would be equal to the Proposed Project. Because most Tribal residents and potential employees already live within the County, and because the solid wastes generated by this development could be taken to any of four landfills used by Windsor Refuse and Recycling, the impact would be less than significant.

#### ***Electricity, Natural Gas, and Telecommunications***

Electrical, natural gas, and telephone services would be the same as those described for the Proposed Project. The Tribe would coordinate with PG&E and AT&T regarding the extension of

services to the project site. The project would use propane, rather than natural gas, which it would contract directly from local supply companies in the area. No adverse utility service impacts would occur.

### ***Law Enforcement***

Under Public Law 280, the State of California and other local law enforcement agencies have criminal enforcement authority on Tribal lands. The Sonoma County Sheriff's Department would provide law enforcement services to the project site. Calls for service would not be disproportionate to other residential or commercial development in the County. No significant impacts to law enforcement services would occur.

### ***Fire Protection and Emergency Medical Services***

The increased risk of fire during the construction of the proposed facilities would be similar to that found at other construction sites. Because the project site is in an area classified as a High Wildland Fire Zone, construction-related impacts would be potentially significant. With the implementation of the protective measures listed in **Section 2.0** and the mitigation measures listed in **Section 5.0**, impacts to fire protection and emergency medical services would be reduced to less-than-significant levels.

Current building and fire codes will be adhered to in relation to fire safety. The additional demand for fire protection and emergency medical services would be similar to that of the Proposed Project. Due to the existing agreements and availability of emergency medical services, the impacts to these services would be less than significant.

### ***Public Schools***

As described in **Section 4.1.9**, Sonoma County has set forth policies that would accommodate the minor increase in students within the HPA. No significant impacts to public schools would occur.

### ***Parks and Recreation***

The Reduced-Intensity Alternative would include multi-use trails and a greater amount of recreational area than Alternatives A or B. No adverse impacts would occur to local parks or recreational facilities.

## **4.3.10 NOISE**

Construction activity noise for the Reduced-Intensity Alternative would be reduced in duration and/or intensity compared with Alternative A. Construction noise is considered intermittent and temporary in nature; the inclusion of the mitigation presented in **Section 5.0** would ensure that construction noise impacts from Alternative C would be less than significant.

The primary source of area noise that would be generated by the Reduced-Intensity Alternative would be traffic on Windsor River Road, as well as occasional and intermittent noise from the

proposed WRF. Vehicle trips generated during the peak AM and PM hours would be less than those described under Alternative A. The existing noise environment is approximately 55 dB. The WRF operational noise would not be noticeable at any on-site or off-site residences. The Reduced-Intensity Alternative would generate less than a 3 dB change in noise. In addition, implementation of the protective measures presented in **Section 2.0** would reduce noise impacts to offsite residents in the vicinity of the project site. Impacts to the noise environment would be less than significant.

#### **4.3.11 HAZARDOUS MATERIALS**

As discussed under the Proposed Project and Alternative B, there are no identified hazardous materials on or near the project site. During construction, it is possible that hazardous materials, such as gasoline, diesel fuel, and hydraulic fluid, would be brought on site in temporary aboveground storage tanks. Additionally, the proposed WRF may use hazardous materials such as sodium hypochlorite and citric acid. The use and storage of hazardous materials is considered potentially significant. Protective measures are listed in **Section 2.0** to reduce potential impacts to a less-than-significant level.

#### **4.3.12 VISUAL RESOURCES**

Alternative C would result in the construction of a lower-density residential development compared with Alternatives A and B, and would include the same community center, retreat, roundhouse, water treatment and wastewater facilities. Development of the Reduced-Intensity Alternative would generally be completed in conformance with the County's Rural Design Guidelines, and would complement existing rural residential development in the project area. Alternative C would include additional trees and shrubs to screen views of the wastewater facilities. Topography of the site and extensive existing vegetation also limits complete views of the property from the surrounding sensitive visual receptors and travelers on Eastside and Windsor River Roads. The development of Alternative C would not result in any significant impacts to visual resources.

### **4.4 ALTERNATIVE D - NO-ACTION**

#### **4.4.1 LAND RESOURCES**

Under the No-Action Alternative, the land would not be taken into trust and the proposed development would not occur. The site would remain as largely undeveloped woodland with a few scattered rural residences. Land resources would not be adversely impacted.

#### **4.4.2 WATER RESOURCES**

Under the No-Action Alternative, the proposed residential, commercial, and recreational uses would not be developed. No additional impervious surfaces would be created on the project site. No adverse impacts to water resources would occur under the No-Action Alternative.

#### **4.4.3 AIR QUALITY**

Under the No-Action Alternative the site would continue to be undeveloped land and none of the construction or operational air quality impacts identified for Alternatives A, B, or C would occur. The property could ultimately be developed, which would introduce a source of both direct (stationary source) and indirect (mobile source) emissions of pollutants of concern; however, because any development would be required to comply with the Sonoma County General Plan and would incorporate protective measures and BMPs for air quality, these impacts would likely be less than significant.

#### **4.4.4 BIOLOGICAL RESOURCES**

Under the No-Action Alternative D, no development would occur within the project site. As such, there would be no significant direct or indirect impacts to the biological resources within or in the vicinity of the project site.

#### **4.4.5 CULTURAL RESOURCES**

Under the No-Action Alternative the 92 acres would remain undeveloped. Therefore, there would be no adverse impacts to any unknown archaeological or paleontological resources on the site.

#### **4.4.6 SOCIOECONOMIC CONDITIONS/ ENVIRONMENTAL JUSTICE**

Under the No-Action Alternative, the 92-acre site would not be placed in trust for the benefit of the Tribe and the associated housing, community center, roundhouse, retreat facility, and water and wastewater facilities would not be constructed. The Tribe would not receive any of the socioeconomic benefits associated with the Proposed Project. The seven parcels comprising the project site would remain on Sonoma County's property tax rolls.

#### **4.4.7 TRANSPORTATION AND CIRCULATION**

Under the No-Action Alternative, there would be no increase in vehicular traffic on project area roadways. None of the traffic impacts identified for the Proposed Project would occur under No-Action Alternative.

#### **4.4.8 LAND USE**

Under the No-Action Alternative, the project site would remain under the jurisdiction of Sonoma County. No land use consistency or compatibility impacts would occur under this alternative.

The project site would remain as woodland habitat under this alternative and no loss of agricultural resources or land use conflicts would occur.



#### **4.4.9 PUBLIC SERVICES**

The No-Action Alternative would not increase demands on public services. The occupied residence on the project site would continue to utilize the existing groundwater well and septic system. No new utility extensions would be required.

#### **4.4.10 NOISE**

Under the No-Action Alternative, the project site would remain undeveloped and largely open space with the exception of the existing houses. Any future development of the project site would be required to meet County design standards. With regard to noise, the project site would not be a source of transportation and/or non-transportation noise. No noise impacts would occur under the No-Action Alternative.

#### **4.4.11 HAZARDOUS MATERIALS**

No hazardous material impacts would occur under the No-Action Alternative.

#### **4.4.12 VISUAL RESOURCES**

Under the No-Action Alternative, the project site would remain undeveloped open space with the exception of the existing six residences. Any future development of the project site would be required to meet County design standards.

### **4.5 CUMULATIVE EFFECTS**

Potential cumulative impacts for each environmental issue area are discussed below. Cumulative impacts are defined in 40 CFR §1508.7 as the impacts:

*... on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.*

The current and reasonably foreseeable future projects in the vicinity of the Proposed Project which have been considered for the cumulative impact analysis include: the Town of Windsor's Eastside Road Storage Project, development of a retail tractor store, and the development of a senior citizen community complex.

The proposed Eastside Road Storage Project would include a 18-acre storage pond located near the intersection of Eastside Road and Mark West Station Road approximately 3.5 miles south of the Proposed Project. The storage pond would be used in conjunction with an onsite pump station and pipeline to connect to the existing Town of Windsor recycled water distribution

system. A Draft Supplemental Environmental Impact Report (SEIR) was prepared for the Town of Windsor to assess the impacts of the storage facility. The Draft SEIR was released for public and agency review for a 45-day comment period from May 22 to July 7, 2008 (CH2M Hill, 2008a). A Final SEIR including responses to comments was published in October 2008 (CH2M Hill, 2008b). The project was approved by the Town of Windsor in October of 2008. Construction of the storage project may begin in approximately five years, with a completion date unknown at this time.

The development sites for the retail tractor store and senior citizen complex are located approximately three miles southeast of the Proposed Project. According the Town of Windsor Planning Department, the development of the retail tractor store and senior citizen complex have been preliminarily approved by the Town of Windsor; however, no building permits have been issued for these two developments (Thompson, 2009). Currently, no other details or documentation on these projects are available.

No known additional projects are currently planned in the vicinity of the Proposed Project.

#### **4.5.1 LAND RESOURCES**

Potential project impacts to land resources (topography, soils, seismicity, and mineral resources) are related to measures required to ensure proper design for site conditions. No potential cumulative impacts would be relevant to this issue area.

#### **4.5.2 WATER RESOURCES**

The Proposed Project and other cumulative projects that may be constructed in the vicinity would be required to comply with the CWA as it relates to stormwater and point-source discharges. Compliance with USEPA and/or State stormwater pollution prevention requirements will prevent off-site development, in combination with the Proposed Project, from causing cumulatively significant stormwater related impacts.

Impacts to the groundwater basin would not be cumulatively significant, as the Proposed Project, in combination with other known projects in the area, would use a relatively small increment of the available groundwater, because none of the cumulative projects would be a major water consumer. Therefore, no cumulatively significant impact would occur.

Wastewater effluent would be required to meet Federal standards. As a part of the project design, any onsite wells would include 50-foot sanitary seals for protection of water quality. Impacts to water quality from the Proposed Project and Alternatives are further discussed under **Sections 4.1.2, 4.2.2, and 4.3.2**. With the implementation of the protective measures listed in **Section 2.0** and the mitigation measures listed in **Section 5.0**, impacts to groundwater would be less than significant. None of the cumulative projects would have an individually significant impact on groundwater quality, and cumulative impacts would also be less than significant.

### 4.5.3 AIR QUALITY

Cumulative impacts to the air basin are addressed within the requirements of the CAA and the General Conformity Rule. Significance levels under the General Conformity Rule are *de minimis* levels shown in **Table 4-13**. The Proposed Project does not reach the *de minimis* levels or exceed 10 percent of Sonoma County emissions required for Federal conformity (see **Table 4-14**).

Therefore the Proposed Project would not result in a change in the basin's air quality designation. The emission inventory for Sonoma County shows ROG at 9,015.5 tpy and 9,307.5 tpy of NOx (CARB, 2008b). The Proposed Project, Alternative B, and Reduced-Intensity Alternative, when considered in combination with other planned and reasonable foreseeable future actions, would not lead to a cumulatively significant impact to air quality.

**TABLE 4-14**  
ALTERNATIVES A, B, AND C CUMULATIVE EMISSIONS

CAPs	Alt A and B	Alt C
	tons per year	
ROG	2.74	1.02
NOx	1.22	0.46
<i>De Minimis Levels</i>	100	100
10% of County Emission Inventory?	No	No
<i>Significant?</i>	No	No
Source: URBEMIS, 9.2.4, 2007		

### 4.5.4 BIOLOGICAL RESOURCES

Potential impacts to biological resources on the project site, including sensitive habitats, potentially jurisdictional waters of the U.S., native trees, special-status species, and migratory birds, will be reduced to a less-than-significant level through measures incorporated into project construction and design (**Section 2.0**) and mitigation (**Section 5.0**). Other developments in the vicinity would have the potential to impact similar habitats, including mixed oak woodland, oak savannah, annual grassland, mixed riparian and related aquatic habitats, and ruderal/developed or pasturine habitats. Any sensitive habitats with the potential to support populations of local endangered species would be protected from development by the *Santa Rosa Plain Conservation Strategy*. Impacts to native trees would be mitigated by compliance with the Sonoma County Tree Ordinance and/or the VOH Combining Design zoning designation, depending on the location of specific cumulative projects. Any cumulative developments affecting jurisdictional waters of the U.S. or special-status species would be required to mitigate according to the applicable provisions of the CWA and the FESA, and migratory birds would be protected from take subject to the MBTA. Cumulative impacts to biological resources would be less than significant.

### 4.5.5 CULTURAL RESOURCES

Cumulative effects to cultural resources typically occur when sites that contain cultural features or artifacts are disturbed by development. As these resources are destroyed or displaced, important information is lost and connections to past events, people and culture is diminished. As

the Town of Windsor and Sonoma County continue to grow, resources, including historic buildings and archaeological sites, may be lost. Sonoma County contains extensive cultural resources, including Pomo and Coast Miwok Indian sites and historical sites associated with early ranching, homesteads, and agriculture. Known sites in Sonoma County include Native American archaeological sites with bedrock mortars, village sites, and dance houses or roundhouses; and historic sites, including historic buildings, homes, and churches. Impacts to these cultural resources are likely to occur as residential and commercial growth occurs in Sonoma County, including near the communities of Windsor, Healdsburg and their surrounding cities.

No significant cultural resources were identified within or adjacent to the project site. However, the records search and archival research indicate that the study area is in a region sensitive for both prehistoric/pre-contact resources and historic-period resources. Prehistoric archaeological sites recorded in the general vicinity of the project area include rock alignments, human cremations, habitation areas, trails, and lithic scatters. Historic-period archaeological sites in the general area include wagon roads, trails, homesteads and ranches. Based on this sensitivity, the Proposed Project may impact previously unknown archaeological resources, as these sites may be buried with no surface manifestation. Significant cumulative impacts to unknown cultural resources could occur if sites continued to be lost, damaged, or destroyed without appropriate recordation or data recovery. Mitigation for potential cumulative impacts to unknown cultural resources has been specified in **Section 5.0** and similar measures are required for all development in Sonoma County to comply with Sonoma County policies, Federal regulations as described in **Section 3.5.1**, and the California Environmental Quality Act (CEQA). Implementation of these measures would reduce cumulative impacts to a less-than-significant level.

#### **4.5.6 SOCIOECONOMIC CONDITIONS / ENVIRONMENTAL JUSTICE**

The Proposed Project, Alternative B, and Reduced-Intensity Alternative when considered in combination with other planned and reasonable foreseeable future actions, would not lead to a significant cumulative impact to socioeconomic conditions or environmental justice.

#### **4.5.7 TRANSPORTATION AND CIRCULATION**

##### ***Trip Generation and Distribution***

The estimated a.m. and p.m. peak-hour trips under the Proposed Project were added to the cumulative condition volumes, which were developed using information from the Town of Windsor 2015 General Plan. This resulted in the estimated traffic volumes on the study area roadway system under Cumulative plus Proposed Project conditions (**Appendix G**).

##### ***Cumulative Plus Project Intersection Levels of Service***

The LOS at the study intersections were evaluated using the estimated a.m. and p.m. peak-hour traffic volumes for Cumulative plus Proposed Project conditions. **Table 4-15** summarizes the results of this analysis. Intersection #6 (Windsor River Road and Bell Road) is expected to

operate at LOS F in the Cumulative scenario; addition of project traffic to this intersection would exacerbate the already unacceptable operating conditions. This would be considered a significant impact.

**TABLE 4-15**  
LEVEL OF SERVICE SUMMARY FOR CUMULATIVE PLUS PROJECT CONDITIONS

Intersection	Traffic Control	Cumulative				Cumulative plus Project			
		AM Peak		PM Peak		AM Peak		PM Peak	
		LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay
#1. Eastside Road and Windsor River Road	Stop Sign (Future)	B	10.4	B	10.4	B	10.5	B	10.5
#2. Windsor River Road and Project Entrance (#1)	Stop Sign (Future)	A	9.9	A	9.7	B	10.3	A	10.1
#3. Windsor River Road and Project Entrance (#3)	Stop Sign (Future)	A	10	A	9.7	B	11.1	B	11.4
#4. Windsor River Road and Starr Road	All-Way Stop	B	13.3	B	11.1	B	14.8	B	12.4
#5. Windsor River Road and Windsor Road	Traffic Signal	D+	38.6	C	32.3	D	41.9	C	26.6
#6. Windsor River Road and Bell Road	Stop Sign	E	46.4	F	62.2	F	54.7	F	82.5
#7. Windsor River Road and Old Redwood Hwy	Traffic Signal	C-	34.3	D	44.4	D+	35.4	D	48.7
#8. Windsor River Road and SB Hwy 101 Ramps	Traffic Signal	C	26.8	C	25.4	C	28.6	C	26.9
#9. Windsor River Road and NB Hwy 101 Off-Ramp – Lakeside Road	Traffic Signal	B-	19.6	D	43.1	B-	19.7	D	44.7
#10. Windsor River Road and Project Entrance #2	Stop Sign	A	9.5	A	9.5	A	9.5	A	9.5

Note: LOS- Level-of-Service; Source: TIS, Appendix G

Improvements are planned for Intersection #9 (Windsor River Road and NB 101 Off-ramp). However, full funding for these improvements has not currently been secured. Therefore, traffic generated from the Proposed Project would decrease the operations at this intersection to an unacceptable LOS, creating a potentially significant impact. Implementation of proposed

mitigation measures described in **Section 5.0** would reduce these impacts to less-than-significant levels.

### ***Bicycle, Pedestrian, and Transit Networks***

The Proposed Project would not result in an increase in bicycling or transit rider activity. Additionally, the project would not adversely affect a pedestrian or bicycle networks under the Cumulative plus Proposed Project conditions. None of the known cumulative scenario projects are expected to affect these networks. No significant cumulative impacts would occur.

## **4.5.8 LAND USE**

If taken into Federal trust, the project site would not be subject to City or County jurisdiction regarding land uses. Any surrounding cumulative projects, however, would be subject to local land use regulations. Since the project alternatives are generally consistent with the existing and proposed land uses in the vicinity, no cumulative land use impacts would occur.

### ***Agriculture***

The retention or development of agricultural land is largely a policy consideration for governmental entities. Prime and unique agricultural lands are considered a limited and valuable resource. Impacts to these lands must therefore be analyzed according to NEPA and the FPPA. All land uses in the region are subject to approval by local government entities. The project site does not contain prime or unique farmland (**Appendix H**), however the parcel immediately south of the site is designated as prime agricultural land. The developers of any nearby projects would be required to comply with local jurisdictional approval. Considering that the proposed project site is not used for agriculture, and no known agricultural conversions are proposed for the area, cumulatively significant impacts to agricultural land would not occur.

## **4.5.9 PUBLIC SERVICES**

Public services for the Proposed Project would be accommodated by existing and planned public services, or would be provided by the Tribe's own facilities. As development of other areas continues, the combined need for public services may create a cumulative impact. However, all future land uses in the region would be subject to approval by local governments, and would include provisions for public services. As a result, the Proposed Project would not result in significant cumulative impacts to public services.

## **4.5.10 NOISE**

Traffic noise would dominate the noise environment in the area surrounding the project site during cumulative conditions. The Proposed Project, in combination with the proposed cumulative projects in the area, would cause a less-than-significant impact with regard to noise.

#### **4.5.11 HAZARDOUS MATERIALS**

There is the potential for impacts related to hazardous materials during construction of the Proposed Project as well as the other cumulative projects. Any new developments would be required to adhere to State and municipal regulations regarding the delivery, handling, and storage of hazardous materials, thereby reducing the risk to the public's health and welfare due to accidental exposure. Therefore, there are no significant cumulative hazardous materials impacts associated with the Proposed Project.

#### **4.5.12 VISUAL RESOURCES**

Development of the project site under the Proposed Project, Alternative B and the Reduced-Intensity Alternative would be generally consistent with the County's Rural Design Guidelines, with no significant impacts to scenic views or features. Any future development in the vicinity would be subject to County review and approval, and potentially significant impacts to visual resources would require mitigation. Therefore, the Proposed Project, Alternative B, or Reduced-Intensity Alternative, when considered in combination with other planned and reasonably foreseeable future actions, would not lead to a significant cumulative impact to visual resources.

### **4.6 INDIRECT AND GROWTH-INDUCING EFFECTS**

Under NEPA, indirect and growth-inducing effects of a Proposed Project must be analyzed (40 CFR §1508.8[b]). The CEQ Regulations define indirect effects as effects that are caused by the action and are later in time or further removed in distance, but are still reasonably foreseeable. Growth-inducing effects are defined as effects that foster economic or population growth, either directly or indirectly. Direct growth inducement could result, for example, if a project included the construction of a new residential development. Indirect growth inducement could result if a project established substantial new permanent employment opportunities (e.g., new commercial, industrial, or governmental enterprises) or if it removed obstacles to population growth (e.g., expansion of a wastewater treatment plant to increase the service availability). **Section 4.6.1** assesses the potential for growth inducing effects caused by the alternatives. **Section 4.6.2** assesses indirect effects caused by the offsite construction of water and wastewater infrastructure and associated pipeline proposed for Alternative A. Other indirect effects are analyzed in previous sections by issue area.

#### **4.6.1 GROWTH INDUCING EFFECTS**

Growth inducement may constitute an adverse impact if the increased growth is not consistent with or accommodated by the land use and growth management plans and policies for the area affected. Local land use plans provide for development patterns and growth policies that allow for orderly development supported by adequate public services and utilities such as water supply, roadway infrastructure, sewer services, and solid waste disposal services. A project that would induce "disorderly" growth (i.e., would conflict with local land use plans) could indirectly cause adverse environmental or public service impacts.

The Proposed Project would include new housing for Lytton Tribal members. Many Tribal members are currently residents of Sonoma County, notably the greater Windsor/Santa Rosa area, and these families and individuals would constitute the majority of the expected residents of the new housing. Few, if any, long-term or permanent employment opportunities would be created. Therefore, it is anticipated that the net direct local population growth resulting from the project would be minimal.

Analyses of the adequacy of local infrastructure and services are included in the discussion of environmental consequences for each proposed Alternative. No significant, unmitigatable impacts have been identified that would result from the Proposed Project. Utility infrastructure would not be significantly improved or expanded to increase service availability to any areas surrounding the project site. Growth-inducing impacts would be less than significant for all of the proposed alternatives.

#### **4.6.2 INDIRECT EFFECTS FROM OFF-SITE WATER AND WASTEWATER IMPROVEMENTS**

Offsite water and wastewater infrastructure and associated pipeline may be constructed under Alternative A as described in **Section 2.1** and **Appendix B**. Water would be supplied to the project site through a connection to the municipal water system of the Town of Windsor under an agreement to be negotiated between the parties. It is anticipated that the existing municipal system would be able to accommodate the water demands of the project. An existing 18-inch diameter water main associated with the Town of Windsor's public water supply system is located parallel to Windsor River Road, immediately north of the project site. Two connections would be made to this water main to serve the project site. If required, each of these connections would include a meter and backflow prevention facilities. Wastewater would be conveyed to the Town of Windsor WWTRDF through the existing municipal sewer collection system. The Tribe would enter into an agreement with the Town of Windsor for sewer service. It is anticipated that the existing WWTRDF would have sufficient treatment and disposal capacity. In order to connect to the WWTRDF, a sewage lift station and approximately 3,200 feet of force main would be constructed that would connect to a manhole located near the intersection of Windsor River Road and Starr Road. The construction of these improvements would occur primarily along existing disturbed roadways. The following section identifies the potential indirect environmental effects of construction of these improvements.

##### ***Land Resources***

The construction of offsite improvements may require trenching and backfilling/re-paving, which could result in erosion of soils. Applicable local agency requirements, including California Environmental Quality Act (CEQA) review if required, would be satisfied prior to commencement of construction of offsite improvements. If construction of offsite improvements would disturb over one acre in area, a NPDES construction permit would be obtained from the Regional Water Quality Control Board. A SWPPP would be developed that would include soil erosion and sediment control practices to reduce the amount of exposed soil, prevent runoff from flowing across disturbed areas, slow runoff from the site, and remove sediment from the runoff.



With standard construction practices and specifications required by the NPDES permit program, the offsite improvements are expected to result in less than significant indirect effects to land resources.

### ***Water Resources***

The development of offsite improvements could affect water resources due to construction activities. Potential effects include increased erosion that could adversely affect surface water quality due to increases in sediment. As discussed above, a SWPPP would be developed, which includes soil erosion and sediment control practices. With implementation of the soil erosion and sediment control practices identified in the SWPPP, effects to water resources would be less than significant.

### ***Air Quality***

Construction of offsite water and wastewater infrastructure and associated pipeline would result in short-term construction-related air pollution emissions. The construction phase is anticipated to produce two types of air contaminants: exhaust emissions from construction equipment and fugitive dust generated as a result of demolition and soil movement. Exhaust emissions from construction activities include those associated with the transport of workers and machinery to the site, as well as those produced on site as the equipment is used. Construction of offsite improvements would be limited in scope and duration. Thus a less than significant indirect effect would result. In addition, mitigation measures are typically required by local jurisdictions to reduce construction emissions, often in conjunction with required CEQA review. These include watering the exposed soil to reduce dust, maintaining equipment properly, etc.

### ***Biological Resources***

Construction of the offsite water and wastewater infrastructure and associated pipeline has the potential to impact vegetation communities and unidentified waters of the U.S. Removal of sensitive native vegetation and vegetation that provides habitat for special-status species or supports migratory birds could result in potentially significant effects. The modifications of potential waters of the U.S. and the direct loss or harm to sensitive animal species are also considered potentially significant effects.

Most of the habitat that exists in the offsite improvement area is highly disturbed roadsides or totally disturbed roadways. Due to the degraded condition of the roadway/roadside areas, habitat quality is generally low and it is unlikely that construction would result in a significant effect to sensitive species. However, in order to address potential impacts to biological resources, biological resource surveys may be required to comply with CEQA. The lead agency under CEQA would be required to mitigate any potential impacts to a less than significant level or to issue a finding of fact and statement of overriding considerations if significant impacts could not be mitigated. Due to the limited nature of the offsite improvements along existing roadways, the degraded condition of existing habitat, and the requirements of CEQA to address impacts to biological resources, the effects of extending existing pipelines would be less than significant.

### ***Cultural Resources***

The construction of offsite improvements has the potential to disturb or destroy historical features and archaeological resources. Trenching to add pipeline may disturb previously unknown sites. Due to prior grading of the existing roadways and occasional traffic on roadsides, it is likely that resources remaining in these areas are highly disturbed and lack integrity, thus diminishing the significance of the remaining resources.

To address potential impacts to cultural resources, cultural resource surveys may be required to comply with CEQA. The lead agency under CEQA would be required to mitigate potential impacts to a less than significant level or to issue a finding of fact and statement of overriding considerations if significant impacts could not be mitigated. Mitigation may include the avoidance of resources, the preservation of key historical features, or the removal, documentation, and curation of cultural resources. Therefore, a less than significant indirect effect to cultural resources would result.

### ***Socioeconomic Conditions/Environmental Justice***

Construction of offsite improvements could result in short-term inconveniences and minor delays due to constricted traffic movements and possible temporary detouring of traffic. The improvements are not expected to result in long-term disruption of access to surrounding land uses or to minority or low-income populations and would not result in a significant indirect effect related to socioeconomic conditions.

### ***Transportation and Circulation***

As mentioned previously, construction of offsite improvements could result in minor delays due to constricted traffic movements and possible temporary detouring of traffic. Local agency requirements would be implemented during construction. The improvements are not expected to result in long-term road closures and would not result in a significant indirect effect to transportation and circulation.

### ***Land Use***

Construction of offsite water and wastewater infrastructure and associated pipeline may require utility easements which would limit future construction. An easement is a right, privilege or interest limited to a specific purpose which one party has in the land of another. Underground utility easements are typically laid out as corridors of sufficient width to give some latitude in locating the actual utility line, and to permit sufficient room for periodic inspection, repair and maintenance. Underground utility easements typically prohibit the construction of building improvements, but may permit the construction of non-structural improvements, such as paved surface parking or landscaping. The force main is anticipated to follow public roads and would not be in an area where a building would normally be built or where an agricultural field would be plowed. Therefore, less than significant indirect impacts to land uses would occur.

***Public Services***

The Tribe would adhere to local regulations for extending water and sewer service to the project site, including the Town's Sanitary Sewer Management Plan. Construction of offsite improvements could result in a temporary break in water, wastewater, or other services to some homes in the area. However, because these effects are common when upgrading and maintaining utility services, and because potential service breaks would be temporary, these effects would be less than significant. No effects to fire or emergency medical services are expected as access to adjacent homes would be maintained during construction of the improvements.

***Noise***

Construction activities would result in short-term increases in the local ambient noise environments. However, because construction activities would be temporary in nature and are expected to occur during normal daytime hours, a less than significant effect is expected.

***Hazardous Materials***

The accidental release of hazardous materials used during construction activities could pose a hazard to construction employees and the environment. Additionally, equipment used during construction activities could ignite dry grasses and weeds in construction areas. However, these hazards, which are common to construction activities, would be minimized with adherence to standard operating procedures, such as refueling in designated areas, storing hazardous materials in approved containers, and clearing dried vegetation. These potential hazards are therefore considered to be less than significant.

***Visual Resources***

Because the majority of the proposed offsite water and wastewater infrastructure and associated pipeline would be constructed below ground, visual indirect effects would be less than significant.