

4.14 INDIRECT AND GROWTH-INDUCING EFFECTS

The National Environmental Policy Act (NEPA) requires that an Environmental Impact Statement (EIS) analyze both the indirect and the “growth-inducing” effects of a proposed project (40 CFR Section 1502.16 [b], 40 CFR Section 1508.8 [b]).

...indirect effects...are caused by the action and are later in time or farther removed in the distance, but are still reasonably foreseeable. Indirect effects may include ‘growth inducing effects’ and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on ...natural systems.

For example, growth-inducing effects include effects that foster economic or population growth, or the construction of additional housing, either directly or indirectly. Direct growth inducement could result, for example, if a project involved the construction of new housing. 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 that could allow new construction in the service area).

An analysis was conducted of development and land use effects after the opening of gaming facilities in Southwest Washington and Northwest Oregon (see **Appendix M** of the FEIS). The study looked at five large and well recognized facilities in southwest Washington and northwest Oregon: Chinook Winds, Kah-Nee-Ta, Lucky Eagle, Spirit Mountain, and four card rooms in La Center. In summary, land use and development effects have been surprisingly muted with the most significant impact reported (at two of the five facilities) being traffic related. Similarly effects on demographics and household incomes have been modest with population growth in the gaming facility census tract slower than in the county for four of the five facilities investigated. Job, income and housing effects were dispersed, extending beyond the immediate vicinity of the gaming operation. Only one of the five communities in the vicinity of the gaming operation (Lincoln City) showed substantial spillover of casino activity to other area businesses.

4.14.1 INDIRECT EFFECTS FROM SOCIOECONOMIC CONDITIONS

ALTERNATIVES A AND B – PREFERRED CASINO-RESORT PROJECT AND PREFERRED PROJECT WITHOUT REROUTING NW 319TH STREET

Potential indirect effects to socioeconomic conditions from implementation of Alternative A or B include off-site residential and commercial development. These effects are discussed below for each impact area.

Geology and Soils

As discussed in more detail under Socioeconomic Conditions below, it can be assumed for purposes of worst-case analysis that approximately 315 houses and associated infrastructure and commercial establishments, on approximately 158 acres of land, would be converted from existing uses. Analysis presented in **Appendix M** of the FEIS verifies that housing and increased commercial activity will most probably be broadly dispersed throughout Clark and Cowlitz counties. Of the 1.2 million acres of land in the Clark and Cowlitz counties study area, this represents only approximately 0.0002%. Therefore, it is unlikely that any area currently utilized for mineral extraction would be directly or indirectly affected by this development. Similarly, the amount of minerals (sand and gravel) extracted for construction of the off-site development is expected to be insignificant in the context of projected growth.

Additionally, the off-site residential and commercial development resulting from this small amount of projected growth would not be significantly affected by seismicity, as the area has low liquefaction and acceleration characteristics (WSDNR, 2003) and any construction within Clark and Cowlitz counties would be required to comply with any County or City building codes and ordinances.

Therefore, no significant indirect effects to geology and soils would occur as a result of off-site residential and commercial development under Alternative A or B.

Water Resources

While it is expected that some of the demand for residential units and commercial space would be accommodated by existing structures, development of Alternative A or B could potentially result in an increase in off-site residential and commercial development as described under Socioeconomic Conditions below. However, development of residential and commercial land uses in the County would be required to comply with the conditions set forth by the Clark County National Pollutant Discharge Elimination System (NPDES) permit, including the incorporation of best management practices (BMPs) to address the quantity and quality of surface water runoff.

Therefore, no significant indirect effects to water resources would occur as a result of off-site residential and commercial development under Alternative A or B.

Air Quality

As indirect growth would be relatively small, and the growth would take place within an attainment area, corresponding air effects would not be significant. Indirect air quality effects associated with the traffic from Alternatives A and B are discussed in **Section 4.14.2** of this document.

Biological Resources

Potential indirect effects associated with off-site residential and commercial development under Alternative A or B could significantly impact wildlife and habitats, State and Federal special status species, migratory birds, and waters of the U.S. These potentially significant impacts would result from the increase in noise, lighting, vehicular traffic, and other human activity in the vicinity of this development. However, the land area that would be affected is relatively small in relation to the overall size of Clark and Cowlitz counties (approximately 0.0002%), and the future growth would remain under either County or City jurisdiction and zoning. In some instances Federal licensing and permits would also be required, providing protection to waters of the U.S. and Federal special status species.

Accordingly, no significant indirect effects to biological resources would occur as a result of off-site residential and commercial development under Alternative A or B.

Cultural Resources

No prehistoric or historic-period cultural resources are known to occur within or adjacent to the La Center Interchange Site. However, one archaeological site has been recorded within 1 mile north of the site. Therefore, off-site residential and commercial development under Alternative A or B could impact previously unknown archaeological resources, as archaeological sites may be buried with no surface manifestation. Significant impacts to cultural resources could occur if sites were lost, damaged, or destroyed without appropriate recordation or data recovery as a result of growth induced by the Proposed Project or Alternatives. However, County and City cultural resources preservation ordinances and compliance with the Washington State Environmental Policy Act (SEPA) would be protective of such resources.

Therefore, no significant indirect effects to cultural resources would occur as a result of off-site residential and commercial development under Alternative A or B.

Socioeconomic Conditions

Development of Alternative A or B would result in both temporary and permanent employment opportunities. An estimated 4,011 temporary construction jobs would be created with the development of the facilities. While direct payroll for construction is estimated at \$185,292,000, construction is not expected to result in any significant permanent in-migration of workers. Total permanent employment is estimated to be 3,151 employees with a total annual payroll estimated at \$88,135,000. If workers are drawn exclusively from the ranks of local unemployed residents, casino employment will result in a somewhat below average, but short-term, unemployment rate within the study area (at 5.0% versus the 6.3% 13-year normalized two-county average). In other words, the current local labor pool is adequate to fill the majority of jobs generated by Alternatives A and B. However, based on studies of comparable casinos, 10% of hires for Alternatives A and B are

expected to be non-local (E.D. Hovee, 2006a; 2006b). These non-local hires are expected to produce a demand for up to 315 housing units in the secondary area. The Post-Development Review of Regional Gaming Facility Impacts confirms that housing effects tend to be dispersed, extending well beyond the immediate vicinity of the gaming operation (**Appendix M** of the FEIS). Vacancy rates of 5% and 6% respectively for the primary and secondary study areas, as defined in **Section 3.7**, Socioeconomics, and E.D. Hovee (2006a) (DEIS Vol. II, **Appendix S**), yield an expectation of approximately 11,000 available units within these two areas. Available housing is analyzed within the secondary area as a reflection of commuting patterns for all forms of employment in southwest Washington. Additionally, discussions with the Southwest Washington Regional Transportation Council (RTC) suggest that selection of housing location is influenced by multiple factors. Several factors suggest that housing location is based on more than proximity to work, including: the high mobility of workers, prevalence of two-income households, and the fact that work trips account for only 20% of all trips. Other influential factors include proximity to schools, safety, and neighborhood preferences (E.D. Hovee, 2006b). Therefore, while vacancy rates are low, sufficient housing is available to satisfy any increased demand resulting from new permanent employment, and 315 added households represent less than a 0.2% share of the existing housing stock in Clark and Cowlitz counties (E.D. Hovee, 2006a; 2006b).

However, as noted by the Clark County Comprehensive Growth Management Plan (GMP) Housing Element, 54,000 additional households will be seeking housing in Clark County by the year 2023 (Clark County, 2004b). Therefore, for purposes of worst-case analysis, and since vacancy rates are low, it can be assumed that market factors will push for a restoration of the vacancy rate and 315 new units will be constructed. Additionally, conservatively assuming that each housing unit and its associated infrastructural improvements such as streets, curbs and gutters, utilities, etc. constitute a total alteration of approximately ½-acre of land, increased housing demand would result in alteration of approximately 158 acres. Similarly, a conservative estimate of 80 acres of development (one-half the amount of assumed housing development acreage) can be assumed to be generated by increased demand for retail goods and services such as convenience stores, fast food restaurants and gas stations. The Post-Development Review of Regional Gaming Facility Impacts (**Appendix M** of the FEIS) appears to verify that this commercial activity is likely to be dispersed throughout Clark and Cowlitz counties. In total, approximately 238 acres of land could be converted from existing uses to satisfy the increased demand for housing and other goods and services. As the study areas (Clark and Cowlitz counties) are approximately 1.2 million acres in extent, this conversion of land to residential and commercial uses only represents approximately 0.0002% of the total land area and is not a significant impact. Additionally, it should be noted that construction of 315 units only represents 13% of the additional housing constructed each year throughout the two-county study area (E.D. Hovee, 2006b).

Indirect effects from implementation of Alternative A or B could include increased property values over time if employees exhibit a preference for housing in or near the incorporated communities in the primary study area. However, residences for new hires are expected to be spread over the primary and secondary study areas of Clark and Cowlitz counties rather than being concentrated in any particular neighborhood or set of neighborhoods.

Therefore, indirect effects to surrounding properties as a result of off-site residential and commercial development under Alternatives A and B are expected to be less than significant as long as current comprehensive plan and zoning designations remain in place (E.D. Hovee, 2006a; 2006b).

While the casino-resort's increased employment is likely to lead to an increased demand for goods and services within the study areas, Clark and Cowlitz counties would be responsible for determining whether any future development plans are consistent with their respective growth management plans. Implementation of Alternative A or B would not likely induce unplanned commercial or residential growth within the counties either directly or indirectly. More importantly, worst-case analysis indicates that potential indirect growth impacts will consist of less than 315 new housing units and associated other developments. Therefore, incorporation of growth in the counties' planning process will ensure that indirect effects from off-site residential and commercial development under Alternatives A and B are not significant.

Substitution Effect

The substitution effect upon most retail businesses in the area is expected to be insignificant as the study area household retail supply can easily accommodate the increase in sales as discussed in **Section 3.7** (E.D. Hovee, 2006a; 2006b). Additionally, while casino gaming is often assumed to be substitutable with alternative entertainment options, substitution likely is nowhere near 100%. San Diego County gaming revenue was negligible in 1999, but revenue for 2004 was estimated at \$1.5 billion with no measurable decline in revenue for theme parks, retail sales or other proxy data sources (ERA, 2004).

Similarly, casino gambling offerings are not totally substitutable. If casino gaming were totally substitutable, adding a new casino to a region would result in a split of revenue with no total growth in revenue. However, the Mohegan Sun Casino and Resort in Connecticut entered the market approximately five years after the opening of the Foxwoods Resort Casino, also in Connecticut. Within a few years the total casino market revenues had basically doubled. Accordingly, it is not expected that the La Center card rooms would be entirely removed from the market. However, substitution and cannibalization effects for gaming in the La Center card rooms are expected to be significant, and could result in a corresponding decrease in La Center's tax base, with revenues dropping from \$2,679,000 to \$1,037,000 (E.D. Hovee, 2006a). In fiscal year (FY) 2004, card room gaming tax revenue to La Center exceeded the City's general fund expenses by \$2.4 million, far

exceeding the \$1.7 million decrease resulting from potential business displacement due to development of Alternative A or B. Accordingly, the indirect effect upon La Center's tax revenues appears more likely to affect long-term capital improvement projects or a contingency fund than the provision of daily public services. While the reduction to La Center's tax revenues would appear significant, the indirect effects of potential business displacement are unlikely to result in any required increase in La Center's tax rates. The overall reduction in income to the City of La Center is considered a significant indirect effect. However, implementation of mitigation will reduce this effect to less than significant.

Importantly, studies of substitution and cannibalization effects for Indian casinos link these effects with three other effects generally perceived as positive by surrounding communities. These effects are 1) destination, which increases the area's attraction to out-of-region patrons, 2) multiplier, which increases the gross regional product due to the casino-resort's demand for goods, and 3) intensity, which can impact the consumer's leisure sector spending decisions (E.D. Hovee, 2006b). These effects are likely to result in positive economic effects to surrounding communities including the City of La Center.

Transportation/Circulation

The addition of approximately 315 new housing units distributed throughout Clark and Cowlitz Counties would be an insignificant impact to the transportation and circulation network of the study area (E.D. Hovee, 2006a; 2006b). **Appendix M** of the FEIS confirms the two county distribution of new housing units. Therefore, no significant indirect effects to transportation would occur as a result of off-site residential or commercial development under Alternative A or B.

Land Use

Indirect effects to land use could consist of conversion of unutilized land or agricultural land to residential or commercial uses. As discussed previously, development of Alternative A or B may result in an indirect demand for housing and commercial services. It is estimated that under the worst-case scenario, approximately 315 new housing units on approximately 158 acres of land would be constructed to meet the expected demand. An additional 80 acres of land could be altered for infrastructural developments. Of the 1.2 million acres of land in the Clark and Cowlitz counties study area, 238 acres represents only 0.0002% of the land. While it is difficult to pinpoint the precise location where this new residential and commercial development might occur, it can be assumed that this development in Clark and Cowlitz counties would be subject to approval according to local land use plans and ordinances. The local jurisdiction would determine the consistency of proposed housing development with the land use regulations for the city or county in which the development would occur. As a result, development of Alternative A or B would not result in unplanned residential or commercial growth within Clark or Cowlitz counties either directly or indirectly.

Therefore, no significant indirect effects to land use would occur as a result of off-site residential or commercial development under Alternative A or B.

Public Services

As discussed in more detail under Socioeconomic Conditions above, it can be assumed for purposes of worst-case analysis that approximately 315 houses and associated infrastructure and commercial establishments, on approximately 238 acres of land, will be converted from existing uses. Of the 1.2 million acres of land in the Clark and Cowlitz counties study area, this represents only approximately 0.0002% of land. Public services would be affected by this population increase and development outside of the current utility infrastructure. However, counties and cities in Washington plan future growth through a growth management plan and plan specifically for utilities in the capital facilities element of the plan. Indirect effects were analyzed for both Clark and Cowlitz counties, but based on growth projections the majority of growth is expected in Clark County. The estimated increase in population in Clark County from 2005 to 2010 is 41,215, compared to 9,139 for Cowlitz County (WOFM, 2002). Average household size is approximately 2.77 persons. Therefore, 315 in-migrants (10% of total employment positions) filling employment vacancies at the casino-resort could be responsible for a total growth of approximately 873 persons, or less than 2% of the projected five-year growth and less than 0.0018% of the current population base in Clark County. The indirect effects of this in-migration would not be unplanned as discussed previously, and the projected increased demand for public services is included in the public planning process. Studies have indicated that no casino workers will qualify for housing assistance and that approximately seven children of casino-resort employees moving into the area will qualify for free or reduced lunch programs (E.D. Hovee, 2006b). Therefore, no significant indirect effects to public services would occur as a result of off-site residential development under Alternative A or B.

The projected 80 acres of commercial development were not quantitatively analyzed as the number of businesses and types are unknown. Generally, commercial development must occur according to planned land use designations. It will most likely occur in developed areas that currently have public service infrastructure. Outside of an incorporated area, it is likely that the developer would pay development fees or the cost of improvements in order to receive service. Thus, commercial development would be included in infrastructure planning or be responsible for funding improvements to the system. Overall, the commercial development would be spread throughout the County, lessening the effect on a single jurisdiction. Thus, the effect on public services from the projected 80 acres of commercial development assumed under a worst-case scenario would be less than significant. There would be no significant indirect effects to public services as a result of off-site commercial development under Alternative A or B.

Water Supply

Clark Public Utilities (CPU) services most of Clark County and would likely service the 315 residential units that would be an indirect effect of Alternatives A and B. The utility served 27,289 homes and businesses in 2004 (CPU, 2005). The new residential units would represent an increase in customers of 1.2%. This is a high estimate as the City of Ridgefield and the City of Vancouver have water supply systems that may subsume some of the 315 residential units assumed under a worst-case development scenario. Clark County has determined that the CPU Water System Plan is consistent with the projected Clark County population in 2023 of 534,191 people (Clark County, 2004a). Additionally it is assumed that the 1.2% increase in customers is included in the projected population of 534,191 people. Growth within urban areas would likely have the infrastructure necessary to provide potable water. In areas farther from a water supply provider, water could be obtained from a private well or the developer would be responsible for funding or building improvements. Due to the small percentage of increase in customers and alternative options available to receive water, impacts to public water service providers would be less than significant. Therefore, no significant indirect effects to water supply would occur as a result of off-site residential and commercial development under Alternative A or B.

Wastewater

Within Clark County the cities of Vancouver, Washougal, Camas, Battle Ground, and Ridgefield provide wastewater services. Typically, sewer service areas extend slightly beyond city limits. The City of La Center's wastewater system is operated by CPU and the City of Vancouver provides service within its city limits. The additional 315 units developed under a worst-case scenario as an indirect effect of Alternative A or B would be distributed throughout Clark County. According to the 2000 U.S. Census, there are 134,030 housing units in Clark County (U.S. Census, 2000). Alternatives A and B would represent a 0.24% increase in housing units, which is an insignificant amount. Growth within urban areas would likely have the infrastructure necessary to provide wastewater service. In areas outside of a sewer district, service could be obtained from an independent septic tank system or the developer would be responsible for funding or building improvements. As the demand would be spread over multiple sewer districts and alternative options for wastewater treatment are available, the impact to public wastewater systems would be less than significant.

Therefore, no significant indirect effects to wastewater systems would occur as a result of off-site residential and commercial development under Alternative A or B.

Solid Waste

Private haulers collect solid waste within Clark County with the exception of the City of Camas, which collects its own municipal solid waste. Waste is then transferred to the Central Transfer and Recycling Center or the West Van Materials Recovery Center. The Clark County Comprehensive

Solid Waste Management Plan lists the objective of establishing a third transfer station in eastern Clark County, which would free up transfer capacity at the existing stations (Clark County, 2003). All solid waste from Clark County is transferred to the Finley Buttes Landfill, which currently receives 600,000 tons per year (tpy) and has a life expectancy with future development of at least 200 years (Large, pers. communication, 2005). The 2003 national estimate for solid waste disposal is 3 pounds (lbs) per person per day (EPA, 2003). Clark County has an average household size of 2.69 persons (U.S. Census, 2000). The solid waste generated from 315 residential units under a worst-case analysis would be approximately 464 tpy, which represents a 0.08% increase in solid waste at the landfill. This impact to solid waste facilities would be less than significant.

Therefore, no significant indirect effects to solid waste collection and disposal would occur as a result of off-site residential and commercial development under Alternative A or B.

Electricity, Natural Gas, and Telecommunications

In Clark County electricity is provided by CPU. Throughout Clark County there are 50 substations. The peak demand from 165,000 electrical customers in 2004 was 995 megawatts (MW) (CPU, 2005). Assuming that the addition of 315 residential units would add 315 new customers, Alternatives A and B would increase the amount of CPU customers by 0.19%, an insignificant amount.

Natural gas is provided by Northwest (NW) Natural Gas, which operates approximately 7,000 miles of line. The incorporated areas of Clark County are well connected to the gas infrastructure. Lines are typically built on an as-needed basis, meaning that unconnected developments may be responsible for paying for improvements to connect to the NW Natural Gas infrastructure. Electrical appliances and propane could be used as substitutes to natural gas if connection is infeasible. Due to adequate alternatives, if infrastructure were unavailable, effects to regional natural gas suppliers would be less than significant.

Qwest Communication, General Telephone, and Lewis River Telephone Company provide telephone services throughout Clark County. Lines within incorporated areas are largely fiber optic cables while some unincorporated areas are served by copper lines. Cable and satellite dish services are available extensively throughout Clark County. Individual projects would be responsible for paying development or user fees to receive electrical, natural gas, cable, and telephone services. Thus, the indirect effects to telecommunications would be less than significant.

Therefore, no significant indirect effects to electricity, natural gas, or telecommunications would occur as a result of off-site residential and commercial development under Alternative A or B.

Law Enforcement

Law enforcement for Clark County is provided in unincorporated areas and the community of Yacolt by the Clark County Sheriff's Office. In incorporated cities, law enforcement services are provided by the respective city police departments. The Memorandum of Understanding (MOU) (DEIS Vol. I, **Appendix C**) between the Cowlitz Indian Tribe and Clark County, and the Tribe's Environment, Public Health and Safety (EPHS) Ordinance (**Appendix U** of the FEIS) provide for the funding needed to ensure adequate service and would reduce direct and indirect impacts of the use of the La Center Interchange Site, which would reduce impacts to unincorporated areas. The MOU and EPHS Ordinance take into account the funding needed to ensure adequate service levels to the County and would be reviewed on an annual basis. Funds from the Tribe to the Sheriff's Office may be used to purchase equipment for the benefit of the entire County. The indirect effects on law enforcement would be mitigated through the MOU with Clark County, the Tribe's EPHS Ordinance and a contractual agreement with the Clark County Sheriff's Office (Lucas, pers. communication, 2005), thereby reducing the impacts to less than significant.

Therefore, no significant indirect effects to law enforcement would occur as a result of off-site residential and commercial development under Alternative A or B.

Fire Protection and Emergency Medical Services

Fire protection and emergency medical services throughout Clark County are provided by eight fire districts. Most of the fire districts are centered around an incorporated area. Fire districts also coordinate emergency medical services and have a contract with an independent ambulance company for ambulance transport. Clark County Fire District (CCFD) 12 provides service to some unincorporated areas in Clark County (including the La Center Interchange Site), the City of La Center, and the City of Ridgefield. The MOU with Clark County and the Tribe's EPHS Ordinance provide for the funding needed to ensure adequate service and would reduce direct and indirect impacts to this district. The MOU and EPHS Ordinance take into account the funding needed to ensure adequate service levels to the County and would most likely be reviewed on an annual basis. In addition, the construction of potentially 315 new residential units would be distributed among various fire districts, lessening the effect on any one district. As the population increase is distributed among districts, relative levels of service and calls for service would remain stable. The indirect effects on fire protection and emergency medical services would be less than significant.

Therefore, no significant indirect effects to fire protection and emergency medical services would occur as a result of off-site residential and commercial development under Alternative A or B.

Noise

New construction and residential and commercial activity indirectly resulting from Alternative A or B are expected to result in minimal noise impacts. Any impacts that may occur would be reduced

through County and municipal regulation including the imposition of construction hours and requirements for the installation of noise abatement equipment. Accordingly, no significant indirect noise impacts are expected to occur as a result of off-site residential and commercial development under Alternative A or B.

Hazardous Materials

Based on the results of a previous hazardous materials survey conducted on February 20, 2004, no significant contamination exists within or adjacent to the La Center Interchange Site. No known impacts from a release of hazardous materials on the site would occur as a result of Alternative A or B. However, during construction of the potential 315 new housing units, indirect effects could impact surface and subsurface conditions as a result of a release of a hazardous material, resulting in a negative impact to human health and the environment. Additionally, new businesses (e.g. service stations and dry cleaning establishments) could involve the use of hazardous materials, which if improperly handled could result in releases of hazardous materials. Compliance with State and Federal statutes, including the Resource Conservation and Recovery Act (RCRA), its provisions dealing with disposal of hazardous waste, and its amendments dealing with underground storage tanks, would ensure that future developments are protective of public health and safety.

Therefore, no significant indirect effects from hazardous materials would occur as a result of off-site residential and commercial development under Alternative A or B.

Aesthetics

Clark County is characterized by open space, scattered residences, and agricultural lands in areas outside urban growth areas (UGA). There is a noticeable shift from open space to more developed areas upon entering designated urban areas. Cities are growing, and as a result unincorporated land near city limits is subject to annexation. Even without the development of Alternative A, both the City of La Center and City of Ridgefield have proposed UGA expansions, which if approved by Clark County, would affect the rural nature of the area. The distribution of new construction throughout Clark County would lessen the impacts to visual resources and community character on any one jurisdiction.

The additional residential and commercial development anticipated under a worst-case scenario as an indirect result of Alternatives A and B is expected to occur according to planned land use designations. Accordingly, there would be no significant effect to community character, as the respective jurisdiction would have planned the type and location of development to best fit the community. Additionally, the total amount of indirect development is small and expected to be spread over multiple jurisdictions. Therefore, no significant indirect effects to visual resources or community character would occur as a result of off-site residential and commercial development under Alternative A or B.

ALTERNATIVE C – REDUCED INTENSITY

Potential indirect effects to socioeconomic conditions from implementation of Alternative C include off-site residential and commercial development. These effects are discussed below.

Geology and Soils

No significant indirect effects to geology and soils would occur as a result of the off-site residential and commercial development under Alternative C because the amount of induced growth is relatively small. As discussed previously, it can be assumed that under the worst-case scenario approximately 162 acres of land will be converted from existing uses. Of these 162 acres, the majority are assumed to have already been modified either for agricultural or residential/commercial purposes. Therefore, it is unlikely that any area currently utilized for mineral extraction would be directly affected. Similarly, the amount of minerals (sand and gravel) extracted for construction is expected to be insignificant in the context of the area's projected growth.

Water Resources

Development of Alternative C could potentially result in an increase in residential and commercial development as described for Alternatives A and B. However, development of new residential and commercial land uses in the County would be required to comply with the conditions set forth by the Clark County NPDES permit, including the incorporation of BMPs to address the quantity and quality of surface water runoff. Therefore, no significant indirect effects to water resources would occur as a result of off-site residential and commercial development under Alternative C.

Air Quality

Indirect air quality effects associated with the traffic from Alternative C are discussed in **Section 4.14.2** of this document. Due to the scope of the indirect effects and because all air impacts would be in an attainment area, these effects would not be significant.

Biological Resources

Potential indirect effects associated with implementation of Alternative C could significantly impact wildlife and habitats, State and Federal special status species, migratory birds, and waters of the U.S. These potentially significant impacts would result from the increase in noise, lighting, vehicular traffic, and other human activity in the vicinity of off-site residential and commercial development. However, as development would take place in compliance with local planning and zoning, and protective provisions of the Endangered Species Act (ESA) and the Federal Clean Water Act (CWA) would remain in place, no significant indirect effects to biological resources would occur as a result of off-site residential and commercial development under Alternative C.

Cultural Resources

Potential indirect impacts to cultural resources for Alternative C would be the same as for Alternatives A and B. Significant impacts to cultural resources could occur if sites were lost, damaged, or destroyed without appropriate recordation or data recovery as a result of growth induced by the Proposed Project or Alternatives. However, County and City cultural resources preservation ordinances and compliance with the SEPA would be protective of such resources. Therefore, no indirect effects to cultural resources would occur as a result of off-site residential and commercial development under Alternative C.

Socioeconomic Conditions

Development of Alternative C would result in both temporary and permanent employment. An estimated 2,272 temporary construction jobs would be created during construction of the proposed facilities. Total permanent employment is estimated to be 2,156. As with Alternatives A and B, the current local labor pool is adequate to fill jobs generated by Alternative C and sufficient housing is available to satisfy any increased demand resulting from new permanent employment (E.D. Hovee, 2006a). However, as discussed below, under the worst-case scenario the increased housing demand driven by increased employment would result in increased land disturbance by housing construction and construction in the service economy. Indirect impacts to property values would be similar to those described under Alternatives A and B but would be lesser due to a reduction in the scope of development.

The substitution effect upon retail businesses in the area is expected to be insignificant as the study area household retail demand can easily accommodate the increase in sales as discussed in **Section 3.7, Socioeconomics**. The substitution effect on La Center card rooms would be significant but less intense than under Alternative A or B, with corresponding effects on La Center's tax base. Reductions in income for La Center's card rooms can be expected to approach \$13,400,000. Accordingly, a reduction to La Center's tax revenue in excess of \$1,000,000 may be expected. While this reduction is a significant effect, it is unlikely to result in the inability of La Center to provide daily services because 75% of the annual tax revenues are saved in a reserve fund. However, the overall reduction in income to the City of La Center is considered a significant indirect effect. However, implementation of mitigation will reduce this effect to less than significant.

While the increased employment is likely to lead to increased future development within the study areas due to the increased demand for goods and services, the counties would be responsible for determining whether this future development is consistent with their respective growth management or comprehensive plans. Accordingly, the proposed development would not induce unplanned commercial or residential growth within Clark or Cowlitz counties either directly or indirectly. Under Alternative C, new permanent employment is estimated at over two-thirds of that for Alternatives A and B. Under the worst-case scenario, assuming market forces maintain a constant vacancy rate, as

was assumed for Alternatives A and B, a demand will be produced for approximately 216 new housing units requiring 108 acres of land and approximately 54 acres of land for new developments in the service economy. As discussed for Alternative A, housing and development would be spread throughout the two-county secondary area.

Transportation/Circulation

The addition of approximately 216 new housing units distributed throughout Clark and Cowlitz counties would be an insignificant impact to the transportation and circulation network of the study area. Therefore, no significant indirect effects to transportation would occur as a result of off-site residential or commercial development under Alternative C.

Land Use

As with Alternatives A and B, development of Alternative C may result in an indirect demand for housing and commercial services. While it is difficult to pinpoint the precise location where this new residential and commercial development would occur, it can be assumed that this development in Clark County would be subject to approval according to local land use plans and ordinances. The local jurisdiction would determine the consistency of proposed housing development with the goals and policies of the GMP for the city in which the development would occur, or the Clark County GMP if the development were to occur within the unincorporated portions of the County. As a result, development of Alternative C would not result in unplanned or disorderly residential or commercial growth within Clark County either directly or indirectly. The worst-case scenario indicates that 162 acres might be subjected to a changed land use. Therefore, no significant indirect effects to land use would occur as a result of off-site residential or commercial development under Alternative C.

Public Services

As described under Alternatives A and B, public services in Clark County would be affected by population increases and development outside of the current utility infrastructure. Counties and cities in Washington plan future growth through a growth management plan and specifically for utilities in the capital facilities element of the plan. Indirect effects were analyzed for both Clark and Cowlitz counties, but the majority of growth is expected in Clark County based on growth projections. The estimated increase in population in Clark County from 2005 to 2010 is 41,215, compared to 9,139 for Cowlitz County (WOFM, 2002). Average household size in Clark County is 2.77 persons. Therefore, 216 in-migrants filling employment vacancies at the casino-resort could be responsible for total growth of 598 persons or less than 1.5% of the expected five-year growth in Clark County. As the growth will not be unplanned, no significant indirect effects to public services would occur as a result of off-site residential development under Alternative C.

The 55 acres of commercial development projected under the worst-case scenario were not quantitatively analyzed, as the number of businesses and types are unknown. Commercial

development will be included in infrastructure planning or be responsible for funding improvements to the system. Overall, the commercial development will be spread throughout the County, lessening the effect on a single jurisdiction. Additional analysis is provided under indirect effects to public services for Alternatives A and B. The effect on public services from the 55 acres of commercial development would be less than significant. There would be no significant indirect effects to public services as a result of off-site commercial development under Alternative C.

Water Supply

As discussed for Alternatives A and B, CPU services most of Clark County and would likely service the potential 216 additional residential units that would be an indirect effect of Alternative C. The new residential units would represent an increase in customers of 0.81%. This estimate is high as the City of Ridgefield and City of Vancouver have water supply systems that may subsume some of the 216 residential units. Clark County has determined that the CPU Water System Plan is consistent with the projected Clark County population in 2023 of 534,191 people (Clark County, 2004a). Residential developments would be within the planned water infrastructure, pay for improvements to receive service, or obtain water from groundwater wells. Due to the small percentage increase in customers and alternative options available to receive water, impacts to public water service providers would be less than significant. Therefore, no significant indirect effects to water supply would occur as a result of off-site residential and commercial development under Alternative C.

Wastewater

Wastewater systems in Clark County are described under indirect effects to public services for Alternatives A and B. The additional 216 housing units expected under the worst-case scenario as an indirect effect from Alternative C would be distributed throughout Clark County. According to the 2000 U.S. Census, there are 134,030 housing units in Clark County (U.S. Census, 2000). Alternative C would represent a 0.16% increase in housing units, which is insignificant. Residential developments would be within the current wastewater infrastructure, pay for improvements to receive service, or utilize a private septic tank. As the demand would be spread over multiple sewer districts and alternative options for wastewater treatment are available, the impact to public wastewater systems would be less than significant. Therefore, no indirect effects to wastewater systems would occur as a result of off-site residential and commercial development under Alternative C.

Solid Waste

Solid waste services for Clark County are described under indirect effects to public services for Alternatives A and B. All solid waste from Clark County is transferred to the Finley Buttes Landfill, which currently receives 600,000 tpy and has a life expectancy with future development of at least 200 years (Large, pers. communication, 2005). The 2003 national estimate for solid waste disposal is 3 lbs per person per day (EPA, 2003). Clark County has an average household size of 2.69 persons (U.S. Census, 2000). The solid waste generated from the 216 residential units analyzed under the

worst-case scenario would be approximately 324 tpy, which represents a 0.05% increase in solid waste at the landfill. This impact to solid waste facilities would be less than significant. Therefore, no significant indirect effects to solid waste collection and disposal would occur as a result of off-site residential and commercial development under Alternative C.

Electricity, Natural Gas, and Telecommunications

In Clark County electricity is provided by CPU. The peak demand from 165,000 electrical customers in 2004 was 995 MW (CPU, 2005). The addition of the 220 residential units presented under the worst-case scenario for Alternative C would increase the amount of CPU customers by 0.13%, an insignificant amount.

Indirect effects to natural gas are the same as those described under Alternatives A and B. Due to adequate alternatives if infrastructure were unavailable, effects to regional natural gas suppliers would be less than significant.

Telecommunications in Clark County are described under indirect effects to public services for Alternatives A and B. Individual projects would be responsible for paying development or user fees to receive electrical, natural gas, cable, and telephone services. Thus, the indirect effects to telecommunications would be less than significant.

Therefore, no indirect effects to electricity, natural gas, or telecommunications would occur as a result of off-site residential and commercial development under Alternative C.

Law Enforcement

Law enforcement for Clark County and relevant provisions of the MOU and EPHS Ordinance are described under indirect effects to public services for Alternatives A and B. The MOU would help to ensure adequate service levels were maintained in unincorporated areas. The indirect effects on law enforcement would be mitigated through the MOU with Clark County and a contractual agreement with the Clark County Sheriff's Office (Lucas, pers. communication, 2005), thereby reducing the impacts to less than significant. Therefore, no significant indirect effects to law enforcement would occur as a result of off-site residential and commercial development under Alternative C.

Fire Protection and Emergency Medical Services

Fire protection, emergency medical services, and relevant provisions of the MOU and EPHS Ordinance are described under indirect effects to public services for Alternatives A and B. Residential units would be distributed among various fire districts, lessening the effect on any one district. As the population increase is distributed, relative levels of service and calls for service would remain stable. The indirect effects on fire protection and emergency medical services would be less

than significant. Therefore, no indirect effects to fire protection and emergency medical services would occur as a result of off-site residential and commercial development under Alternative C.

Noise

Construction activities, and residential and commercial activity, resulting from induced growth may be expected to result in minor noise impacts as a result of Alternative C. County and municipal regulation through imposition of construction hours and requirements for installation of noise abatement equipment are expected to control such impacts. Therefore, no significant indirect noise impacts are expected to occur as a result of off-site residential and commercial development under Alternative C.

Hazardous Materials

As discussed for Alternatives A and B, no significant contamination exists within or adjacent to the La Center Interchange Site. No known impacts from a release of hazardous materials on the site would occur as a result of Alternative C. However, during construction of the potential 216 new housing units, indirect effects could impact surface and subsurface conditions as a result of a release of a hazardous material, resulting in a negative impact to human health and the environment. Additionally, some expansions of businesses (e.g. service stations and dry cleaning establishments) could involve the use of hazardous materials, which if improperly handled could result in releases of hazardous materials. However, provisions of the RCRA would ensure that hazardous waste is properly disposed of and that fuel tanks do not leak, thereby ensuring the protection of public safety and reducing such impacts to less than significant levels. Therefore, no indirect effects from hazardous materials would occur as a result of off-site residential and commercial development under Alternative C.

Aesthetics

The indirect effects to aesthetics are the same as those described under Alternatives A and B, and would be less than significant. Therefore, no indirect effects to visual resources or community character would occur as a result of off-site residential and commercial development under Alternative C.

ALTERNATIVE D – BUSINESS PARK

Potential indirect effects to socioeconomic conditions from implementation of Alternative D include off-site residential and commercial development. These effects are discussed below.

Geology and Soils

No significant indirect effects to geology and soils would occur as a result of the off-site residential and commercial development under Alternative D. The amount of induced growth would be

relatively small with a correspondingly small amount of land being modified to accommodate the growth. It is unlikely that any area used for mineral extraction will be directly affected or that the amount of minerals (sand and gravel) utilized in construction by the induced growth would be significant. Therefore, no indirect effects to geology and soils would occur as a result of off-site residential and commercial development under Alternative D.

Water Resources

Development of Alternative D could potentially result in an increase in residential and commercial development. However, development of residential and commercial land uses in the County would be required to comply with the conditions set forth by the Clark County NPDES permit, including the incorporation of BMPs to address the quantity and quality of surface water runoff. Therefore, no significant indirect effects to water resources would occur as a result of off-site residential and commercial development under Alternative D.

Air Quality

Indirect air quality effects associated with the traffic from Alternative D are discussed in **Section 4.14.2** of this document. Due to the minimal nature of such indirect effects, and their location in an attainment area, these effects would not be significant.

Biological Resources

Potential indirect effects associated with implementation of Alternative D could significantly impact wildlife and habitats, State and Federal special status species, migratory birds, and waters of the U.S. These potentially significant impacts would result from the increase in noise, lighting, vehicular traffic, and other human activity in the vicinity of off-site residential and commercial development. However, as protective provisions of the ESA, CWA, SEPA, and County or City ordinances will remain in effect, no significant effects to biological resources would occur as a result of the indirect and growth-inducing effects from Alternative D.

Cultural Resources

Impacts to cultural resources could occur if sites were lost, damaged, or destroyed without appropriate recordation or data recovery as a result of induced growth or other indirect effects of project development. Potential indirect impacts to cultural resources for Alternative D would be the same as for Alternatives A, B, and C. However, County and City cultural resources preservation ordinances and compliance with SEPA would be protective of such resources. Therefore, no indirect effects to cultural resources would occur as a result of off-site residential and commercial development under Alternative D.

Socioeconomic Conditions

The proposed business park under Alternative D would result in both temporary and permanent employment. An estimated 999 temporary construction jobs would be created during construction of the proposed facilities. Total permanent employment is estimated to be 2,991. As is the case with Alternatives A, B, and C, the housing demand resulting from Alternative D would be accommodated with the existing and projected housing stock within the primary and secondary study areas. While the increased employment is likely to lead to increased future development within the study areas due to the increased demand for goods and services, the counties would be responsible for determining whether this future development is consistent with their respective growth management plans. Accordingly, the proposed development would not induce unplanned commercial or residential growth in Clark or Cowlitz counties either directly or indirectly. The introduction of new jobs and the anticipated provision of city services by the City of La Center are expected to induce further growth along the Interstate 5 (I-5) corridor and focus City growth in this area.

New permanent employment may be expected to produce a demand for housing and other goods and services similar to the demand created for Alternatives A and B. For purposes of worst-case analysis we may assume 10% of the new hires are area in-migrants (E.D. Hovee, 2006a) and market forces maintain a constant vacancy rate. Therefore, a demand for approximately 299 residences and an indirect effect similar to that of Alternatives A and B upon the physical environment may be anticipated. Incorporation of surrounding property into the City of La Center's UGA would be a significant factor affecting property values for the area. Indirect impacts to property values resulting from development of Alternative D would be less than significant.

Transportation/Circulation

The addition of approximately 299 new housing units distributed throughout Clark and Cowlitz counties would be an insignificant impact to the transportation and circulation network of the study area. Therefore, no significant indirect effects to transportation would occur as a result of off-site residential or commercial development under Alternative D.

Land Use

As with the previously discussed alternatives, development of Alternative D may result in an indirect demand for housing and commercial services. While it is difficult to pinpoint the precise location where this new residential and commercial development will occur, it can be assumed that this development in Clark and Cowlitz counties would be subject to approval according to local land use plans and ordinances. The local jurisdiction would determine the consistency of proposed housing development with the goals and policies of the GMP for the city in which the development would occur, or the Clark County GMP if the development were to occur within the unincorporated portions of the County. As a result, development of Alternative D would not result in unplanned residential and commercial growth within Clark County either directly or indirectly. Using numbers generated

by the model for indirect development utilized for the worst-case scenarios in Alternatives A, B, and C, a total of 225 acres of land, mostly in Clark County, would be subjected to changed uses or developed as a result of indirect impacts from Alternative D. Therefore, no significant indirect effects to land use would occur as a result of off-site residential and commercial development under Alternative D.

Public Services

As described under Alternatives A and B, public services in Clark County would be affected by population increases and development outside of the current utility infrastructure.

Indirect impacts to public services are substantially similar to those described under Alternatives A and B, as the estimated increase of 299 residential units is similar to, but less than, the 315 residential units analyzed under those alternatives. Accordingly, effects to public water supply, wastewater services, solid waste services, energy, telecommunications, law enforcement, fire protection, and emergency medical services would be less than significant.

Commercial development was not quantitatively analyzed as the number and types of businesses are unknown. Commercial development would be included in infrastructure planning or be responsible for funding improvements to the system. Commercial development established near the La Center Interchange area may be expected to differ from any development induced by a casino-resort. New businesses would provide services to employees of the business park, rather than patrons of the casino-resort. Typical elements of such developments include coffee shops, copy shops, convenience stores, and fast food chain restaurants.

Overall, the commercial development would be spread throughout Clark County, although a small amount may be present in Cowlitz County, lessening the effect on a single jurisdiction. Additional analysis is provided under indirect effects to public services for Alternatives A and B. The effect on public services from commercial development would be less than significant.

Therefore, there would be no significant indirect effects to public services as a result of off-site residential and commercial development under Alternative D.

Noise

Construction activities, and residential and commercial activity, resulting from induced growth may be expected to result in minor noise impacts as a result of Alternative D. County and municipal regulation through imposition of construction hours and requirements for installation of noise abatement equipment are expected to control such impacts. Therefore, no significant indirect noise impacts are expected to occur as a result of off-site residential and commercial development under Alternative D.

Hazardous Materials

As discussed for Alternatives A and B, no significant contamination exists within or adjacent to the La Center Interchange Site. No known impacts from a release of hazardous materials on the project site would occur as a result of Alternative D. However, during construction of the potential 299 new housing units, indirect effects could impact surface and subsurface conditions as a result of a release of a hazardous material, resulting in a negative impact to human health and the environment.

Additionally, some expansions of businesses (e.g. service stations and dry cleaning establishments) could involve the use of hazardous materials, which if improperly handled could result in releases of hazardous materials. Provisions of the RCRA would ensure that hazardous waste is properly disposed of and that fuel tanks incorporate appropriate design measures so they do not leak, thereby ensuring the protection of public safety and reducing such impacts to less than significant levels.

Aesthetics

The indirect effects to aesthetics are the same as those described under Alternatives A, B, and C, and would be less than significant. Therefore, no indirect effects to visual resources or community character would occur as a result of off-site residential and commercial development under Alternative D.

ALTERNATIVE E – RIDGEFIELD INTERCHANGE SITE

Potential indirect effects to socioeconomic conditions from implementation of Alternative E include off-site residential and commercial development. These effects are discussed below.

Geology and Soils

No significant indirect effects to geology and soils would occur as a result of the off-site residential and commercial development under Alternative E. The amount of induced growth would be relatively small with a correspondingly small amount of land being modified to accommodate the growth. It is unlikely that any area used for mineral extraction will be directly affected or that the amount of minerals (sand and gravel) utilized in construction by the induced growth would be significant. Therefore, no indirect effects to geology and soils would occur as a result of off-site residential and commercial development under Alternative E.

Water Resources

Development of Alternative E could potentially result in an increase in residential and commercial development. However, development of residential and commercial land uses in the County would be required to comply with the conditions set forth by the Clark County NPDES permit, including the incorporation of BMPs to address the quantity and quality of surface water runoff. Therefore, no

significant indirect effects to water resources would occur as a result of off-site residential and commercial development under Alternative E.

Air Quality

Indirect air quality effects associated with the traffic from Alternative E are discussed in **Section 4.14.2** of this document. Due to the relatively small amount of indirect growth, and the area's being in attainment, indirect air quality impacts are insignificant.

Biological Resources

Potential indirect effects associated with implementation of Alternative E could significantly impact wildlife and habitats, State and Federal special status species, migratory birds, and waters of the U.S. These potentially significant impacts would result from the increase in noise, lighting, vehicular traffic, and other human activity in the vicinity of off-site residential and commercial development. However, as protective provisions of the ESA, CWA, SEPA, and County or City ordinances will remain in effect, no significant effects to biological resources would occur as a result of the indirect and growth-inducing effects from Alternative E.

Cultural Resources

No prehistoric or historic-period cultural resources are known to occur within or adjacent to the Ridgefield Interchange Site. However, the Ridgefield area is known to have been occupied by prehistoric Native Americans as well as Euro-American settlers. Therefore, development induced by Alternative E could indirectly impact previously unknown cultural resources, as archaeological sites may be buried with no surface manifestation. Significant impacts to cultural resources could occur if sites were lost, damaged, or destroyed without appropriate recordation or data recovery. However, County and City cultural resources preservation ordinances and compliance with SEPA would be protective of such resources. Therefore, no indirect effects to cultural resources would occur as a result of off-site residential and commercial development under Alternative E.

Socioeconomic Conditions

Development of Alternative E would result in both temporary and permanent employment. An estimated 2,904 temporary construction jobs would be created during construction of the proposed facilities. Total permanent employment is estimated to be 3,095. As is the case with Alternatives A, B, C, and D, the current local labor pool is adequate to fill jobs generated by Alternative E and sufficient housing is available to satisfy any increased demand resulting from new permanent employment (E.D. Hovee, 2006a). Indirect impacts to property values would be similar to those described under Alternatives A and B, but are expected to be lessened by the magnitude of projected development in the vicinity of the Ridgefield Interchange.

As is the case with Alternatives A and B, the substitution effect upon most retail businesses in the area is expected to be insignificant as the study area household retail demand can easily accommodate the increase in sales. The substitution effect on the La Center card rooms receipts and revenues is also expected to be very similar to that of Alternatives A and B. While the Ridgefield Interchange Site is farther from La Center, it is not assumed that a significant percentage of the card room patrons are local residents, but rather clientele coming from the Vancouver/Portland area. As the Ridgefield Interchange facility would still be situated in a position to capture a significant portion of this market, similar effects on card room revenues are expected. Accordingly, a similar reduction in La Center tax revenues is anticipated. While the reduction to La Center's tax revenues would appear significant, the indirect effects of potential business displacement are unlikely to result in any required increase in La Center's tax rates because 75% of the annual tax revenues are saved in a reserve fund. However, the overall reduction in income to the City of La Center is considered a significant indirect effect. However, implementation of mitigation will reduce this effect to less than significant.

While the increased employment is likely to lead to increased future development within the study areas due to the increased demand for goods and services, the counties would be responsible for determining whether this future development is consistent with their respective growth management plans. Accordingly, the proposed development would not induce unplanned commercial or residential growth within Clark or Cowlitz counties either directly or indirectly.

For purposes of worst-case analysis, it can be assumed that 10% of the new employees will be in-migrants, and while housing vacancies are available to fill the needs of new employees, market forces will push to maintain the existing (low) vacancy rate. Utilizing the model for indirect effects generation utilized for Alternatives A, B, C, and D, a total of 310 new residences would be constructed that, with associated commercial development, would result in a total disturbance (change of use) of 233 acres of land. As discussed for Alternative A, housing and development would be spread throughout the two-county secondary area.

Transportation/Circulation

The addition of approximately 310 new housing units distributed throughout Clark and Cowlitz counties would be an insignificant impact to the transportation and circulation network of the study area. Therefore, no significant indirect effects to transportation would occur as a result of off-site residential or commercial development under Alternative E.

Land Use

As with the previously discussed alternatives, development of Alternative E may result in an indirect demand for housing and commercial services. While it is difficult to pinpoint the precise location where this new residential and commercial development will occur, it can be assumed that this development in Clark County would be subject to approval according to local land use plans and

ordinances. The local jurisdiction would determine the consistency of proposed housing development with the goals and policies of the GMP for the city in which the development would occur, or the Clark County GMP if the development were to occur within the unincorporated portions of the County. As a result, development of Alternative E would not result in unplanned residential and commercial growth within Clark County either directly or indirectly. The numbers generated by the model for worst-case indirect effects indicate that a total of 233 acres of land might be subjected to development or changed use for housing or commercial purposes. This acreage is comparatively small; therefore, no significant indirect effects to land uses would occur as a result of off-site residential and commercial development under Alternative E.

Public Services

As described under Alternatives A and B, public services in Clark County would be affected by population increases and development outside of the current utility infrastructure. Growth would not be unplanned. Indirect impacts to public services would be similar to those described under Alternatives A and B, as the worst-case analysis estimated increase of approximately 310 residential units is similar to that of Alternatives A and B. Accordingly, effects to public water supply, wastewater services, solid waste services, energy, telecommunications, law enforcement, fire protection, and emergency medical services would be less than significant.

Commercial development indirectly resulting from Alternative E would be included in infrastructure planning or be responsible for funding improvements to the system. Overall, the commercial development would be spread throughout the County, lessening the effect on a single jurisdiction. Additional analysis is provided under indirect effects to public services for Alternatives A and B. The effect on public services from commercial development would be less than significant.

Therefore, there would be no indirect effects to public services as a result of off-site residential and commercial development under Alternative E.

Noise

Construction activities and residential and commercial activity resulting from induced growth may be expected to result in minor noise impacts as a result of Alternative E. County and municipal regulation through imposition of construction hours and requirements for installation of noise abatement equipment are expected to control such impacts. Therefore, no significant indirect noise impacts are expected to occur as a result of off-site residential and commercial development under Alternative E.

Hazardous Materials

Based on the results of a reconnaissance-level survey of the Ridgefield Interchange Site, no significant contamination exists within or adjacent to the site. No known impacts from a release of

hazardous materials on the site would occur as a result of Alternative E. However, during construction of the potential 310 new housing units projected in the worst-case analysis, indirect effects could impact surface and subsurface conditions as a result of a release of a hazardous material, resulting in a negative impact to human health and the environment. Additionally, new businesses (e.g. service stations and dry cleaning establishments) could involve the use of hazardous materials, which if improperly handled could result in releases in hazardous materials. Provisions of RCRA that regulate the disposal of hazardous materials and storage tanks would be protective of public health and safety and ensure that no significant impacts result.

Aesthetics

The indirect effects to aesthetics are similar to those described under Alternatives A and B. While the Ridgefield Interchange Site is within the expansion of the Ridgefield UGA and the La Center Interchange Site is surrounded by the proposed expansion of the La Center UGA, the essential commercial character slated for both areas assures that aesthetic impacts would be less than significant. The total area of indirect effect projected under the worst-case scenario is comparatively small. Therefore, no significant indirect effects to visual resources or community character would occur as a result of off-site residential and commercial development under Alternative E.

ALTERNATIVE F – NO ACTION

The No Action Alternative would not result in economic growth for the Tribe. As such, no jobs would be created that would result in the potential need for housing or spur growth in commercial development. No effect would result.

4.14.2 INDIRECT EFFECTS FROM OFF-SITE TRAFFIC MITIGATION

This section analyzes the effects resulting from the construction of traffic improvements that are recommended as mitigation. Construction of these improvements could generate indirect impacts in several areas, which are discussed below for each alternative. The size of the area impacted through the construction of the recommended traffic mitigation measures was calculated for each alternative and is discussed below. The area calculations are best approximations of potential impacts.

ALTERNATIVES A AND B – PREFERRED CASINO-RESORT PROJECT AND PREFERRED PROJECT WITHOUT REROUTING NW 319TH STREET

Area of Impact

Table 4.14-1 presents the area impacted as a result of constructing the recommended traffic mitigation measures at each of the study intersections. Due to the proximity of some of the study intersections to each other, such as those at the La Center Interchange, the table presents the data in a grouped manner where appropriate.

The total amount of area potentially being impacted by traffic mitigation is 132,000 square feet. This square footage calculates to approximately 3 acres. An assessment of impacts to resources based on this area of calculated disturbance is discussed below.

TABLE 4.14-1
RECOMMENDED TRAFFIC MITIGATION AREA OF IMPACT – ALTERNATIVES A AND B

Improvements	Approximate Area of Impact
I-5 and La Center Interchange	
Signalize the northbound and southbound ramp intersections.	N/A
Add a northbound left-turn lane with a storage length of 450 feet and add a 450-foot long right-turn lane for the northbound ramp.	6,600 sq. ft.
Widen the overpass between the I-5 northbound and southbound ramps to accommodate a second westbound traffic lane and a back-to-back left turn lane (for a total of four lanes on the overpass).	6,600 sq. ft.
Add an auxiliary lane to the southbound on-ramp of approximately 1,500 feet consistent with WsDOT standards	18,000 sq. ft.
Add an auxiliary lane to the northbound off-ramp of approximately 1,500 feet in length (consistent with WsDOT standards) and widen to accommodate a two-lane off-ramp.	36,000 sq. ft.
The southbound ramp intersection should have one exclusive right-turn lane and one through-lane in the eastbound direction; the westbound direction should have one through-lane and one through- and right-turn lane; eastbound and westbound should be split phasing.	26,400 sq. ft.
Realign Paradise Park Road approximately 300 feet to the east of its current location.	20,400 sq. ft.
Add a right-turn storage lane of 100 feet to the southbound I-5 off-ramp at NW 319 th Street.	1,200 sq. ft.
Realign NW 31 st Avenue 300 to 350 feet westward of its current location.	16,800 sq. ft.
La Center Interchange Site Access at Parking Garage 1	
Signalize this intersection.	N/A
Total Area	132,000 sq. ft.

Notes: All figures are approximate.
sq. ft. = square feet
N/A = area calculation is not applicable

Source: Parsons Brinckerhoff, 2006a.

Geology and Soils

The construction of roadway improvements would require grading and the introduction of fill material to add turn lanes, widen the overpass, and widen the on- and off-ramps associated with the La Center Interchange. At all intersections, changes to topography would be moderate due to the variable relief and slope of the area. The increase in impervious surfaces and additional cut-and-fill embankments could result in erosion of soils. Stable fill material, engineered embankments, and erosion control features would be used to reduce the potential for slope instability, subsidence and

erosion. Watering during grading activities would mitigate the effect of wind erosion to the underlying soils. Effects to geology and soils would be less than significant.

Additionally, the roadway improvements are not expected to significantly affect the ability to extract minerals, as roadways are currently present at the sites, thereby already compromising mineral extraction.

With standard construction practices and specifications required by the Washington Department of Transportation (WsDOT) and the NPDES permit program, there would be no indirect effects to geology and soils as a result of off-site traffic mitigation under Alternative A or B.

Water Resources

The development of roadway improvements for traffic mitigation could affect water resources due to grading and construction activities and an increase in impervious surfaces. Potential effects include an increase in surface runoff and increased erosion, which could adversely affect surface water quality due to increases in sediment and roadway pollutants such as grease and oil. Additionally, WsDOT is required by State and Federal regulations to have a stormwater permit in areas covered by Phase I and Phase II of the municipal stormwater permit program. WsDOT has agreed to a statewide permit to avoid having a piecemeal stormwater program and to promote better management of stormwater runoff from all State highways. The permit covers stormwater runoff from State highways, rest areas, weigh stations, scenic view points, park-and-ride lots, ferry terminals, and maintenance facilities. This permit will replace WsDOT's current coverage under the current Phase I general permits (DOE, 2005).

Construction of roadway improvements that exceed 1 acre of land would be required to comply with the NPDES General Construction Permit Program. To comply with the program, a Stormwater Pollution Prevention Plan (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. Construction on WsDOT roadways would be required to comply with the WsDOT NPDES permit.

The effects to runoff volumes resulting from the increase in impervious roadways are expected to be minimal due to the limited extent of the improvements in comparison to the existing roadways. Some existing curb and gutters and stormwater drain inlets would be demolished and relocated along portions of the roadways to provide space for improvements. Curb and gutters, inlets, and other drainage facilities would be reconstructed to provide adequate facilities to direct stormwater runoff. With incorporation of these drainage features and compliance with the soil erosion and sediment control practices identified in the SWPPP, effects to water resources would be less than significant.

Therefore, there would be no indirect effects to water resources as a result of off-site traffic mitigation under Alternative A or B.

Air Quality

The area of roadway impacts would not be of a size to create air quality effects. With the improved roadways, level of service (LOS) is improved, thereby reducing idling time. Construction generated dust and emissions will be controlled by BMPs mandated by the State of Washington. Accordingly, there would be no significant air quality impacts.

Biological Resources

The disturbance of approximately 3 acres of land adjacent to I-5 and other local roadways is unlikely to result in significant impacts to biological resources. However, the mitigation measures identified in **Table 5-1, Section 5.2.7** for off-site traffic improvements would require separate environmental documents, in accordance with SEPA, to analyze impacts to biological resources. A USACE permit, as described in **Section 5.2.4**, would also need to be obtained for any impacts to waters of the U.S. Therefore, there would be no indirect effects to biological resources as a result of off-site traffic mitigation under Alternative A or B.

Cultural Resources

Though no cultural resources have been recorded within or adjacent to the La Center Interchange Site, prehistoric Native Americans and Euro-American settlers are known to have occupied the general area. The development of off-site roadway improvements as a result of traffic mitigation could impact previously unknown archaeological resources. Significant impacts to cultural resources could occur if sites were lost, damaged, or destroyed without appropriate recordation or data recovery. While the area of roadway improvements and associated potential impacts would be small in size, the possibility remains that impacts could occur. The mitigation measures identified in **Table 5-1, Section 5.2.7** for off-site traffic improvements would require separate environmental documents, in accordance with SEPA, to analyze impacts to cultural resources. Therefore, there would be no indirect effects to cultural resources as a result of off-site traffic mitigation under Alternative A or B.

Socioeconomic Conditions

Off-site traffic improvements would result in short-term disturbances to traffic flows. Surrounding businesses and residences would remain accessible throughout construction. The area of roadway impacts would be of a limited size and would not create socioeconomic effects. The costs of these roadway improvements would be borne by the Cowlitz Indian Tribe consistent with the MOU with Clark County (DEIS Vol. I, **Appendix C**) and the Tribe's EPHS Ordinance (**Appendix U** of the FEIS). Therefore, there would be no indirect effects to socioeconomic conditions as a result of off-site traffic mitigation under Alternative A or B.

Transportation/Circulation

Off-site traffic improvements would be limited in scale and duration, resulting only in short-term disturbances to traffic flows. Therefore, there would be no indirect effects to the transportation and circulation network as a result of off-site traffic mitigation under Alternative A or B.

Land Use

The area of roadway improvements would be limited in size and is in accordance with the reclassified rural to urban roadway network designation as part of the proposed UGA expansion plans for the City of La Center. Therefore, there would be no indirect effects to land use as a result of off-site traffic mitigation under Alternative A or B.

Public Services

Traffic improvements may require relocation of utilities near existing roadways. These utilities include overhead electricity lines and telecommunication lines. Relocation of these lines could result in a temporary break in service to some homes and businesses 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 are considered to be less than significant. No effects to police, fire, or emergency medical services are expected as access to homes and businesses would be maintained during the construction period. Therefore, there would be no indirect effects to public services as a result of off-site traffic mitigation under Alternative A or B.

Noise

Construction activities and residential and commercial activity resulting from off-site traffic improvements may be expected to result in minor noise impacts as a result of Alternative A or B. County and municipal regulation through imposition of construction hours and requirements for installation of noise abatement equipment are expected to control such impacts. Therefore, no significant indirect noise impacts are expected to occur as a result of off-site traffic mitigation under Alternative A or B.

Hazardous Materials

The area of roadway improvements and associated potential impacts would be limited in size; therefore, the possible area for hazardous materials discovery is limited. While construction equipment may release diesel fuel, gasoline or hydraulic fluid, the initiation of response and clean-up measures would ensure that no significant indirect impacts from hazardous materials would occur as a result of off-site traffic mitigation under Alternative A or B.

Aesthetics

With the modification and expansion of existing roadways, visual effects would occur. Road improvements would be made in areas that are already developed with roadway networks. Modified intersections and roadways would conform to modern design standards. Improvements would not result in significant removal or alteration of vegetation, topographic features, or key visual characteristics. Additionally, traffic improvements would not change surrounding land uses and would occur in areas with existing roadway networks. Therefore, no significant indirect effects to aesthetics or community character are expected to occur as a result of off-site traffic mitigation under Alternative A or B.

ALTERNATIVE C – REDUCED INTENSITY

Area of Impact

Table 4.14-2 presents the area impacted as a result of constructing the recommended traffic mitigation measures at each of the study intersections. Due to the proximity of some of the study intersections to each other, such as those at the La Center Interchange, the table presents the data in a grouped manner where appropriate.

The total amount of area potentially impacted by traffic mitigation measures is 113,400 square feet. This square footage calculates to 2.6 acres and can be conservatively rounded to 2.5 acres. An assessment of impacts to resources based on the area of calculated disturbance is discussed below.

Geology and Soils

The roadway improvements for Alternative C are similar to those for Alternatives A and B. The area of roadway impacts would be of a limited size and would not create effects to geology, soil, or mineral resources. Therefore, with the inclusion of standard construction practices and specifications required by the NPDES permit program and WsDOT, there would be no indirect effects to geology and soils as a result of off-site traffic mitigation under Alternative C.

Water Resources

The roadway improvements for Alternative C would have similar effects to water resources as described for Alternatives A and B. As a result, off-site traffic improvements for Alternative C would result in less than significant effects to water resources with the inclusion of standard construction practices and specifications required by the NPDES permit program and WsDOT. Therefore, there would be no indirect effects to water resources as a result of off-site traffic mitigation under Alternative C.

TABLE 4.14-2
RECOMMENDED TRAFFIC MITIGATION AREA OF IMPACT- ALTERNATIVE C

Improvements	Approximate Area of Impact
I-5 and La Center Interchange	
Signalize the northbound and southbound ramp intersections.	N/A
Add a northbound left-turn lane with a storage length of 300 feet and add a 120-foot long right-turn lane for the northbound ramp.	4,800 sq. ft.
Widen the overpass between the I-5 northbound and southbound ramps to accommodate a second westbound traffic lane and a back-to-back left turn lane (for a total of four lanes on the overpass)..	6,600 sq. ft.
Add an auxiliary lane to the southbound on-ramp of approximately 1,500 feet consistent with WsDOT standards	18,000 sq. ft.
Add an auxiliary lane to the northbound off-ramp of approximately 1,500 feet in length (consistent with WsDOT standards) and widen to accommodate a two-lane off-ramp.	36,000 sq. ft.
The southbound ramp intersection should have one exclusive right-turn lane and one through-lane in the eastbound direction; the westbound direction should have one through-lane and one through- and right-turn lane; eastbound and westbound should be split phasing.	26,400 sq. ft.
Realign Paradise Park Road approximately 300 feet to the east of its current location.	20,400 sq. ft.
Add a right-turn storage lane of 100 feet to the southbound I-5 off-ramp at NW 319 th Street.	1,200 sq. ft.
Realign NW 31 st Avenue 300 to 350 feet westward of its current location.	16,800 sq. ft.
La Center Interchange Site Access at Parking Garage 1	
Signalize this intersection.	N/A
Total Area	130,200 sq. ft.

Notes: All figures are approximate.

sq. ft. = square feet

N/A = area calculation is not applicable

Source: Parsons Brinckerhoff, 2006a.

Air Quality

The area of roadway impacts would not be of a size to create air quality effects. With the improved roadways, LOS is improved, thereby reducing idling time. Construction generated dust and emissions will be controlled by BMPs mandated by the State of Washington. Accordingly, there would be no significant air quality impacts.

Biological Resources

The disturbance of approximately 2.5 acres of land adjacent to I-5 and other local roadways is unlikely to result in significant impacts to biological resources. However, the mitigation measures identified in **Table 5-1, Section 5.2.7** for off-site traffic improvements would require separate environmental documents, in accordance with SEPA, to analyze impacts to biological resources. A

USACE permit, as described in **Section 5.2.4**, would also need to be obtained for any impacts to waters of the U.S. Therefore, there would be no indirect effects to biological resources as a result of off-site traffic mitigation under Alternative C.

Cultural Resources

Potential impacts to cultural resources would be similar to those described for Alternatives A and B. Significant impacts to cultural resources could occur if sites were lost, damaged, or destroyed without appropriate recordation or data recovery. While the area of roadway improvements and associated potential impacts would be small in size, the possibility remains that impacts could occur. The mitigation measures identified in **Table 5-1, Section 5.2.7** for off-site traffic improvements would require compliance with SEPA to address impacts to cultural resources. Therefore, there would be no indirect effects to cultural resources as a result of off-site traffic mitigation under Alternative C.

Socioeconomic Conditions

Off-site traffic improvements would result in short-term disturbances to traffic flows. Surrounding businesses and residences would remain accessible throughout construction. The area of roadway impacts would be of a limited size and would not create socioeconomic effects. The costs of these roadway improvements would be borne by the Cowlitz Indian Tribe consistent with the MOU with Clark County and EPHS Ordinance. Therefore, there would be no indirect effects to socioeconomic conditions as a result of off-site traffic mitigation under Alternative C.

Transportation/Circulation

Off-site traffic improvements would be limited in scale and duration, resulting only in short-term disturbances to traffic flows. Therefore, there would be no indirect effects to the transportation and circulation network as a result of off-site traffic mitigation under Alternative C.

Land Use

The area of roadway improvements would be limited in size and is in accordance with the reclassified rural to urban roadway network designation as part of the UGA expansion plans. Therefore, there would be no indirect effects to land use as a result of off-site traffic mitigation under Alternative C.

Public Services

Traffic improvements may require relocation of utilities near existing roadways. These utilities include overhead electricity lines and telecommunication lines. Relocation of these lines could result in a temporary break in service to some homes and businesses 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 are considered to be less than significant. No significant effects to police, fire, or emergency medical services would occur as access to homes and businesses

would be maintained during the construction period. Therefore, there would be no indirect effects to public services as a result of off-site traffic mitigation under Alternative C.

Noise

Construction activities and residential and commercial activity resulting from off-site traffic improvements may be expected to result in minor noise impacts as a result of Alternative C. County and municipal regulation through imposition of construction hours and requirements for installation of noise abatement equipment are expected to control such impacts. Therefore, no significant indirect noise impacts are expected to occur as a result of off-site traffic mitigation under Alternative C.

Hazardous Materials

The area of roadway improvements and associated potential impacts would be limited in size; therefore, the possible area for hazardous materials discovery is limited. While construction equipment may release diesel fuel, gasoline or hydraulic fluid, the initiation of response and clean-up measures would ensure that no significant indirect impacts from hazardous materials would occur as a result of off-site traffic mitigation under Alternative C.

Aesthetics

With the modification and expansion of existing roadways, visual effects would occur. Road improvements would occur in areas that are already developed with roadway networks. Modified intersections and roadways would conform to modern design standards. Improvements would not result in significant removal or alternation of vegetation, topographic features, or key visual characteristics. Additionally, traffic improvements would not change surrounding land uses and would occur in areas with existing roadway networks. Therefore, no significant indirect effects to aesthetics or community character are expected to occur as a result of off-site traffic mitigation under Alternative C.

ALTERNATIVE D – BUSINESS PARK

Area of Impact

Table 4.14-3 presents the area impacted as a result of constructing the recommended off-site traffic mitigation measures at each of the study intersections. Due to the proximity of some of the study intersections to each other, such as those at the La Center Interchange, the table presents the data in a grouped manner where appropriate.

TABLE 4.14-3
RECOMMENDED TRAFFIC MITIGATION AREA OF IMPACT – ALTERNATIVE D

Improvements	Approximate Area of Impacts
I-5 & La Center Interchange	
In the eastbound direction on NW 319 th Street, add two exclusive right-turn-only lanes with a channelized right turn (with pedestrian crosswalk) onto the I-5 southbound on-ramp. The I-5 southbound on-ramp will need two lanes that drop to one lane after approximately 500 feet. The westbound left-turn lane onto the southbound ramp would need to be coordinated with the signalized eastbound right-turn lane onto the same ramp to avoid vehicle conflicts.	6,000 sq. ft.
NW 319th Street/NW La Center Road and East 4th Street	
Signalize the intersection of NW LA Center Road and East 4 th Street.	N/A
I-5 northbound ramps and NW 319th Street/NW La Center Road	
Signalize this intersection.	N/A
I-5 northbound off-ramp and NW 319th Street/NW La Center Road	
Add right-turn vehicle storage of at least 250 feet on the northbound off-ramp	3,000 sq. ft.
I-5 southbound ramps and NW 319th Street/NW La Center Road	
Signalize this intersection.	N/A
Add a minimum vehicle storage length of 400 feet to the westbound left-turn. As the current overpass is approximately 550 feet long with one lane for each direction of traffic, the overpass may need to be replaced to accommodate the extra lanes.	4,800 sq. ft.
I-5 southbound off-ramp and NW 319th Street/NW La Center Road	
Add left-turn vehicle storage of 200 feet on the southbound off-ramp.	2,400 sq. ft.
I-5 southbound on-ramp and NW 319th Street/NW La Center Road	
Provide two 350-foot long lanes that drop to one lane further south on the ramp before merging with the southbound I-5 mainline.	8,400 sq. ft.
31st Avenue and NW 319th Street/NW La Center Road	
Signalize this intersection.	N/A
Realign to match with the entrance to the Parking Garage #1 on the north side of NW 319 th Street.	10,800 sq. ft.
NW 319th Street/NW La Center Road	
Provide two lanes, one in each direction west of the intersection with NW 31 st Avenue.	28,800 sq. ft.
Total Area	64,200 sq. ft.

Notes: All figures are approximate.

sq. ft. = square feet

N/A = area calculation is not applicable

Source: Parsons Brinckerhoff, 2006a.

The total amount of area potentially being impacted by traffic mitigation measures is 64,200 square feet. This square footage calculates to approximately 1.5 acres. An assessment of impacts to resources based on the area of calculated disturbance is discussed in the following paragraphs.

Geology and Soils

The construction of roadway improvements for Alternative D would require grading and the introduction of fill material to add turn lanes, widen the overpass, and widen the on- and off-ramps associated with the La Center Interchange. As with Alternatives A and B, the increase of impervious surfaces and additional cut-and-fill embankments could result in erosion of soils. The area of roadway impacts would be of a limited size and would not create significant effects to geology, soil, or mineral resources. Therefore, with standard construction practices and specifications required by the NPDES permit program and WsDOT, there would be no indirect effects to geology and soils as a result of off-site traffic mitigation under Alternative D.

Water Resources

The roadway improvements for Alternative D would have similar effects to water resources as those described for Alternatives A and B. As a result, intersection improvements for Alternative D would result in less than significant effects to water resources with the inclusion of standard construction practices and specifications required by the NPDES permit program and WsDOT. Therefore, there would be no indirect effects to water resources as a result of off-site traffic mitigation under Alternative D.

Air Quality

The area of roadway impacts would not be of a size to create air quality effects. With the improved roadways, LOS is improved, thereby reducing idling time. Construction generated dust and emissions will be controlled by BMPs mandated by the State of Washington. Accordingly, there would be no significant air quality impacts.

Biological Resources

The disturbance of approximately 1.5 acres of land adjacent to I-5 and other local roadways is unlikely to result in significant impacts to biological resources. However, the mitigation measures identified in **Table 5-1, Section 5.2.7** for off-site traffic improvements would require separate environmental documents, in accordance with SEPA, to analyze impacts to biological resources. A USACE permit, as described in **Section 5.2.4**, would also need to be obtained for any impacts to waters of the U.S. Therefore, there would be no indirect effects to biological resources as a result of off-site traffic mitigation under Alternative D.

Cultural Resources

Significant impacts to cultural resources could occur if previously undiscovered sites were lost, damaged, or destroyed without appropriate recordation or data recovery. While the area of roadway improvements and associated potential impacts would be small in size, the possibility remains that impacts could occur. The mitigation measures identified in **Table 5-1, Section 5.2.7** for off-site traffic improvements would require separate environmental documents, in accordance with SEPA, to analyze impacts to cultural resources. Therefore, there would be no indirect effects to cultural resources as a result of off-site traffic mitigation under Alternative D.

Socioeconomic Conditions

Off-site traffic improvements would result in short-term disturbances to traffic flows. Surrounding businesses and residences would remain accessible throughout construction. The area of roadway impacts would be of a limited size and would not create significant socioeconomic effects. The costs of these roadway improvements would be borne by the Cowlitz Indian Tribe consistent with the MOU with Clark County and EPHS Ordinance. Therefore, there would be no indirect effects to socioeconomic conditions as a result of off-site traffic mitigation under Alternative D.

Transportation/Circulation

Off-site traffic improvements would be limited in scale and duration, resulting only in short-term disturbances to traffic flows. Therefore, there would be no indirect effects to the transportation and circulation network as a result of off-site traffic mitigation under Alternative D.

Land Use

The area of roadway improvements would be limited in size and is in accordance with the reclassified rural to urban roadway network designation as part of the UGA expansion plans. Therefore, there would be no indirect effects to land use as a result of off-site traffic mitigation under Alternative D.

Public Services

Traffic improvements may require relocation of utilities near existing roadways. These utilities include overhead electricity lines and telecommunication lines. Relocation of these lines could result in a temporary break in service to some homes and businesses 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 are considered to be less than significant. No effects to police, fire, or emergency medical services would occur as access to homes and businesses would be maintained during the construction period. Therefore, there would be no indirect effects to public services as a result of off-site traffic mitigation under Alternative D.

Noise

Construction activities and residential and commercial activity resulting from off-site traffic improvements may be expected to result in minor noise impacts as a result of Alternative D. County and municipal regulation through imposition of construction hours and requirements for installation of noise abatement equipment are expected to control such impacts. Therefore, no significant indirect noise impacts are expected to occur as a result of off-site traffic mitigation under Alternative D.

Hazardous Materials

The area of roadway improvements and associated potential impacts would be limited in size; therefore, the possible area for hazardous materials discovery is limited. While construction equipment may release diesel fuel, gasoline or hydraulic fluid, the initiation of response and clean-up measures would ensure that no significant indirect impacts from hazardous materials would occur as a result of off-site traffic mitigation under Alternative D.

Aesthetics

With the modification and expansion of existing roadways, visual effects would occur. Road improvements would occur in areas that are already developed with roadway networks. Modified intersections and roadways would conform to modern design standards. Improvements would not result in significant removal or alternation of vegetation, topographic features, or key visual characteristics. Additionally, traffic improvements would not change surrounding land uses and would occur in areas with existing roadway networks. Therefore, no significant indirect effects to aesthetics or community character are expected to occur as a result of off-site traffic mitigation under Alternative D.

ALTERNATIVE E – RIDGEFIELD INTERCHANGE SITE

Area of Impact

For the Ridgefield Interchange Site, **Table 4.14-4** presents the area impacted as a result of constructing the recommended off-site traffic mitigation at each of the study intersections. Due to the proximity of some of the study intersections to each other, such as those at the La Center Interchange, the table presents the data in a grouped manner where appropriate.

The total amount of area potentially being impacted by traffic mitigation measures is 36,000 square. This square footage calculates to 0.82 acres, which can be conservatively rounded up to 1.0 acre. An assessment of impacts to resources based on the area of calculated disturbance is discussed below.

TABLE 4.14-4
RECOMMENDED TRAFFIC MITIGATION AREA OF IMPACT – ALTERNATIVE E

Improvements	Approximate Area of Impact
Pioneer Street (SR-501)/I-5 Interchange (Ridgefield Interchange)	
Widen the interchange to include right- and left-turn lanes on the northbound off-ramps, with two lanes westbound and two lanes eastbound, plus a center left-turn lane on the overpass over I-5.	33,000 sq. ft.
Widen the Ridgefield interchange to an additional lane in each direction between the I-5 southbound ramps and 65 th Avenue.	64,400 sq. ft.
Pioneer Street (SR-501) and I-5 off-ramps	
Widen the southbound off-ramps to provide two left-turn lanes from southbound to eastbound.	3,000 sq. ft.
Pioneer Street (SR-501) and 45th Avenue	
Signalize or construct a roundabout at this intersection.	N/A
Pioneer Street (SR-501) and 65th Avenue	
Improve the 65 th Avenue/Pioneer intersection to have triple left turns in the eastbound direction and double left-turns in the southbound direction.	6,000 sq. ft.
Widen 65 th Avenue to six lanes between Pioneer and the main Casino entrance, and four lanes north to the Parking Garage entrance.	136,280 sq. ft.
Total Area	242,680 sq. ft.

Notes: All figures are approximate.
sq. ft. = square feet
N/A = area calculation is not applicable
Source: Parsons Brinckerhoff, 2006a.

Geology and Soils

The construction of roadway improvements would require grading and the introduction of fill material to widen the Pioneer Street/I-5 Interchange and widen the I-5 off-ramps to Pioneer Street. As with Alternatives A and B, the increase of impervious surfaces and additional cut-and-fill embankments could result in erosion of soils. The area of roadway impacts would be of a limited size. Roadway mitigation would not create significant effects to geology, soil, or mineral resources. Therefore, with standard construction practices and specifications required by the NPDES permit program and WsDOT, there would be no indirect effects to geology and soils as a result of off-site traffic mitigation under Alternative E.

Water Resources

The roadway improvements for Alternative E would have similar effects to water resources as those described for Alternatives A and B. As a result, intersection improvements for Alternative E would result in less than significant effects to water resources with the inclusion of standard construction practices and specifications required by the NPDES permit program and WsDOT. Therefore, there would be no indirect effects to water resources as a result of off-site traffic mitigation under Alternative E.

Air Quality

The area of roadway impacts would not be of a size to create significant air quality effects. With the improved roadways, LOS is improved, thereby reducing idling time. Construction generated dust and emissions will be controlled by BMPs mandated by the State of Washington. Accordingly, there would be no significant air quality impacts.

Biological Resources

A USACE permit, as described in **Section 5.2.4**, would need to be obtained for any impacts to waters of the U.S. Additionally, the mitigation measures identified in **Table 5-1, Section 5.2.7** for off-site traffic improvements would require separate environmental documents, in accordance with SEPA, to analyze impacts to biological resources. As disturbance would be confined to approximately 1.0 acre of habitat adjacent to existing roadsides, there would be no indirect effects to biological resources as a result of off-site traffic mitigation under Alternative E.

Cultural Resources

No cultural resources were identified as a result of a study of the Ridgefield Interchange Site conducted by AES on March 10 and 11, 2005 (AES, 2005b) (DEIS Vol. II, **Appendix R**). However, the Ridgefield area is known to have been occupied by prehistoric Native Americans as well as Euro-American settlers. Therefore, development of Alternative E could impact previously unknown buried archaeological resources, as archaeological sites may be buried with no surface manifestation. Significant indirect impacts to cultural resources could occur if sites were lost, damaged, or destroyed without appropriate recordation or data recovery. While the area of roadway improvements and associated potential impacts would be small in size, the possibility remains that impacts could occur. The mitigation measures identified in **Table 5-1, Section 5.2.7** for off-site traffic improvements would require separate environmental documents, in accordance with SEPA, to analyze impacts to cultural resources. No indirect effects to cultural resources are expected as a result of off-site traffic mitigation under Alternative E.

Socioeconomic Conditions

Off-site traffic improvements would result in short-term disturbances to traffic flows. Surrounding businesses and residences would remain accessible throughout construction. The area of roadway impacts would be of a limited size and would not create significant socioeconomic effects. The costs of these roadway improvements would be borne by the Cowlitz Indian Tribe consistent with the MOU with Clark County and the Tribe's EPHS Ordinance. Therefore, there would be no indirect effects to socioeconomic conditions as a result of off-site traffic mitigation under Alternative E.

Transportation/Circulation

Off-site traffic improvements would be limited in scale and duration, resulting only in short-term disturbances to traffic flows. Therefore, there would be no indirect effects to the transportation and circulation network as a result of off-site traffic mitigation under Alternative E.

Land Use

The area of roadway improvements would be limited in size. Therefore, there would be no indirect effects to land use as a result of off-site traffic mitigation under Alternative E.

Public Services

Traffic improvements may require relocation of utilities near existing roadways. These utilities include: overhead electricity lines, underground water and sewer lines, and telecommunication lines. Relocation of these lines could result in a temporary break in service to some homes and businesses 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 are considered to be less than significant. No significant effects to police, fire, or emergency medical services would occur as access to homes and businesses would be maintained during the construction period. Therefore, there would be no indirect effects to public services as a result of off-site traffic mitigation under Alternative E.

Noise

Construction activities and residential and commercial activity resulting from off-site traffic improvements may be expected to result in minor noise impacts as a result of Alternative E. County and municipal regulation through imposition of construction hours and requirements for installation of noise abatement equipment are expected to control such impacts. Therefore, no significant indirect noise impacts are expected to occur as a result of off-site traffic mitigation under Alternative E.

Hazardous Materials

The area of roadway improvements and associated potential impacts would be limited in size; therefore, the possible area for hazardous materials discovery is limited. While construction equipment may release diesel fuel, gasoline or hydraulic fluid, the initiation of response and clean-up measures would ensure that no significant indirect impacts from hazardous materials would occur as a result of off-site traffic mitigation under Alternative E.

Aesthetics

With the modification and expansion of existing roadways, significant visual effects would occur. Road improvements would occur in areas that are already developed with roadway networks. Modified intersections and roadways would conform to modern design standards. Improvements

would not result in significant removal or alternation of vegetation, topographic features, or key visual characteristics. Additionally, traffic improvements would not change surrounding land uses and would occur in areas with existing roadway networks. Therefore, no significant indirect effects to aesthetics or community character are expected to occur as a result of off-site traffic mitigation under Alternative E.

ALTERNATIVE F – NO ACTION

Under the No Action Alternative, road improvements would occur under the authority of local and/or State jurisdictions and outside the scope of the Proposed Project. Therefore, no impacts associated with the Proposed Project would occur.

4.14.3 INDIRECT EFFECTS FROM OPTIONAL MITIGATION OF DISCHARGE OF TREATED WASTEWATER

As an alternative to on-site wastewater treatment and disposal for Alternatives A, B, and C, the Tribe may seek to obtain a services agreement with the City of La Center or the City of Ridgefield to provide municipal sewer service. Proposed improvements would be needed to service the project and alternatives. These are further discussed under the wastewater service discussion for Alternative D in **Section 4.10**, Public Services as this mitigation feature is incorporated in project design for Alternatives D and E.

Accordingly, the effects of this mitigation are discussed for Alternatives A, B, and C only.

ALTERNATIVES A AND B – PREFERRED CASINO-RESORT PROJECT AND PREFERRED PROJECT WITHOUT REROUTING NW 319TH STREET

Projected average wastewater flows for Alternatives A and B are 310,000 gallons per day (gpd), if a wastewater recycling system is not utilized. Reductions to wastewater flow resulting from a recycled water system are expected to be approximately 67% for Alternatives A and B. Significant effects of this discharge to the Type 5 on-site seasonal drainage may be mitigated through a sewer hookup to a municipal wastewater system. As the City of La Center is expanding its UGA to include the La Center Interchange Site, hookup to the City of La Center system would be consistent with planned growth in the area.

The City of La Center is 1.5 miles east of the La Center Interchange Site. The City of La Center wastewater system is operated by CPU, with an NPDES permit authorizing 0.56 million gallons a day (mgd) of discharge to the East Fork Lewis River. Existing demand utilizes 0.37 mgd of this treatment capacity. CPU proposes improvements to this system including a shift from sequencing batch reactors to membrane bio-reactors (MBR). However, even with these system improvements, a new NPDES permit will be required to allow sufficient discharge quantities to accommodate wastewater

from Alternative A or B. As the permitting and construction processes usually require 3 years, the City of La Center system would be able to accept project wastewater in 2009.

The City of Ridgefield, located 2.5 miles south of the La Center Interchange site, is also proposing improvements to its system. Phase 1 improvements consist of increasing discharge capacity to 0.7 MGD with continued discharge into the Lake River under an existing NPDES permit allowing discharge of up to 0.8 MGD. Phase 2 involves increasing treatment to 1.8 MGD and discharge into the Columbia River. Phase 1 would also involve construction of 2.5 miles of force main south on NW 31st Avenue to a proposed new lift station at NW 269th Street. Phase 2 will not be available until 2007. Since Alternatives A and B require 0.91 MGD of treatment capacity, construction of Alternatives A or B may need to be phased to allow the City of Ridgefield to meet demand.

Geology and Soils

No significant indirect effects to geology and soils would result from connecting to a municipal wastewater system. Sewer line extensions to service the La Center Interchange Site are expected to result in relatively small amounts of cut-and-fill. Similarly, expansion of the existing municipal treatment plant's capacity is not expected to require significant amounts of land alteration.

Water Resources

With discharge to a publicly owned treatment facility, no wastewater treatment facility would be on site and no ability to recycle water would be available. Accordingly, the reductions to water demand resulting from a recycled water system of approximately 67% would be lost. Similarly, discharges from a City of La Center system may not meet the same water quality standards as would be met by the proposed on-site facility MBR system. However, this would not be a significant impact, given that the municipal wastewater system would operate under a valid NPDES permit designed to protect the receiving water body.

Air Quality

Minor and temporary impacts to air quality would result from construction of sewer lines, lift stations, and treatment facilities. Such effects themselves would be mitigated through BMPs. Odor control measures would reduce impacts from treatment facilities. The construction of proposed MBR systems to replace sequencing batch reactors by the City of La Center would also reduce odors. Therefore, no significant indirect effects to air quality would result from connecting to a municipal wastewater system.

Biological Resources

No significant indirect effects to biological resources would occur from a municipal wastewater system hookup. Effluent discharges would be regulated by NPDES permits that protect aquatic resources.

Construction of sewer lines may result in some indirect effects to biological resources due to erosion and stormwater runoff; however, BMPs as presented in **Section 5.0** would reduce any impacts to less than significant levels.

Cultural Resources

No significant indirect effects to cultural resources would occur from a municipal wastewater system hookup. If previously unknown cultural resources would be encountered during excavation for sewer lines, lift stations, or wastewater treatment plant upgrades the implementation of procedures for inadvertent discoveries under NHPA, SEPA and County ordinances (as applicable) would prevent significant adverse effects.

Socioeconomic Conditions

No significant indirect effects to socioeconomic conditions would result from connecting to a municipal wastewater system. The creation of additional wastewater capacity by the City of La Center could be considered growth-inducing. However, this additional capacity is already scheduled to occur and is not being proposed in response to the Cowlitz project. Similarly, extension of sewer mains to the La Center Interchange Site could be considered growth-inducing. However, the City of La Center is currently considering expansion of its service areas to encompass property surrounding the La Center Interchange Site. Accordingly, this action is not being taken in response to the Cowlitz project.

Transportation/Circulation

Construction of sewer lines may result in some traffic delays, which are by their nature temporary and of short duration. No significant indirect effects to transportation would occur as a result of a municipal sewer hookup.

Public Services

Under peak wastewater flow conditions described in **Section 2.0**, Alternative A or B would increase wastewater flows received at the City of La Center wastewater treatment plant by .91 MGD. The current permitted capacity at the City of La Center WWTP is 0.56 MGD, and average daily wastewater flows are 0.37 MGD. Wastewater treatment demands generated by Alternative A or B would exceed the available permitted capacity at the City of La Center WWTP by approximately 0.72 MGD. This would require significant upgrades to the treatment capacity at the WWTP and permitted discharge to the Lewis River from the CPU treatment plant would need to be increased. The Tribe or the City would need to construct a sanitary lift station and 1.5 miles of force main to the nearest connection point. Potentially significant indirect effects to the City of La Center wastewater treatment system would be reduced to less than significant through the services agreement negotiated between the Tribe and the City of La Center recommended as optional mitigation in **Section 5.2.8**.

Noise

No significant indirect noise effects would occur as a result of a municipal sewer hookup. Construction noise generated in conjunction with construction of sewer lines and treatment capacity is by its nature temporary and would be confined to daylight hours. Pumps for sewer lift stations are electrical and essentially quiet. Additionally, lift station pumps are usually underground, effectively muffling any noise.

Hazardous Materials

No significant indirect effects regarding hazardous materials would occur as a result of a municipal sewer hookup. While an inadvertent release of diesel fuel, gasoline, or hydraulic fluid from construction equipment may occur, response and cleanup may prevent significant impacts.

Aesthetics

No significant indirect effects to aesthetics and community character would occur as a result of a municipal sewer hookup. Sewer lines would be installed underground and backfilled, and vegetative cover would be restored. MBR systems are typically housed in nondescript low-profile buildings. With appropriate landscaping impacts would be lessened and the nature of the facility would not be obvious to the casual observer.

ALTERNATIVE C – REDUCED INTENSITY

Alternative C is projected to have an average discharge of 219,000 gpd if a wastewater recycling system is not utilized. As discussed under Alternatives A and B previously, the City of La Center will likely have the ability to accept wastewater from this project in 2009.

Geology and Soils

No significant indirect effects to geology and soils would occur as a result of a municipal sewer hookup. Sewer lines and mains will be excavated and then backfilled, and topsoil and vegetative cover or paving as appropriate would be restored over the excavation.

Water Resources

With discharge to a publicly owned treatment facility, no wastewater treatment facility would be on site and no ability to recycle water would be available. Accordingly, the reductions to water demand resulting from a recycled water system of approximately 67% gpd would be lost. Similarly, discharges from the City of La Center system may not meet the same water quality standards as would be met by the on-site facility MBR system. However, this would not be a significant impact given that the municipal wastewater system would operate under a valid NPDES permit designed to protect the receiving water body.

Air Quality

Construction impacts to air quality would be controlled through BMPs, including dust suppression efforts. The City of La Center's proposed conversion of sequenced batch reactors to MBR systems would reduce odors. No significant indirect effects to air quality would occur as a result of a municipal sewer hookup.

Biological Resources

As described for Alternatives A and B previously, significant indirect effects to biological resources from a municipal wastewater system hookup or construction of needed improvements would be reduced to less than significant by the implementation of BMPs presented in **Section 5.0**.

Cultural Resources

No significant indirect effects to cultural resources would occur from a municipal wastewater system hookup. However, it is possible that previously unknown cultural resources will be encountered during excavation for sewer lines, lift stations, or wastewater treatment plant upgrades. In this instance the implementation of procedures for inadvertent discoveries under SEPA and County ordinances would prevent significant adverse effects.

Socioeconomic Conditions

No significant indirect socioeconomic effects would occur as a result of a municipal sewer hookup. While it could be argued that the extension of sewer lines or service areas is in itself growth-inducing, the extension of service areas is not being undertaken in response to this project.

Transportation/Circulation

Construction of sewer lines may result in some traffic delays, which are by their nature temporary and of short duration. No significant indirect effects to transportation would occur as a result of a municipal sewer hookup.

Land Use

No indirect land use impacts would occur as a result of a municipal sewer hookup. Land uses within sewer rights-of-way are expected to continue.

Public Services

Under peak wastewater flow conditions described in **Section 2.0**, Alternative C would increase wastewater flows received at the City of La Center wastewater treatment plant by .35 MGD. The current permitted capacity at the City of La Center WWTP is 0.56 MGD, and average daily wastewater flows are 0.37 MGD. Wastewater treatment demands generated by Alternative C would

exceed the available permitted capacity at the City of La Center WWTP by approximately 0.16 MGD. This would require significant upgrades to the treatment capacity at the WWTP and permitted discharge to the Lewis River from the CPU treatment plant would need to be increased. The Tribe or the City would need to construct a sanitary lift station and 1.5 miles of force main to the nearest connection point. Potentially significant indirect effects to the City of La Center wastewater treatment system would be reduced to less than significant through the services agreement negotiated between the Tribe and the City of La Center recommended as optional mitigation in **Section 5.2.8**.

Noise

Construction noise would result, but would be short-term and temporary by nature. Pumps at lift stations are electrical and quiet. Pump noise is further reduced by the muffling effects of in-ground installation. No significant indirect noise impacts would occur as a result of a municipal sewer hookup.

Hazardous Materials

No significant indirect hazardous materials effects would occur as a result of a municipal sewer hookup. Inadvertent releases of diesel fuel, gasoline or hydraulic fluid from construction equipment would be subject to rapid response and cleanup.

Aesthetics

No significant indirect effects to aesthetics or community character would occur as a result of a municipal sewer hookup under Alternative C. Sewer lines would be installed underground and backfilled, and vegetative cover would be restored.

ALTERNATIVE D – BUSINESS PARK

The Proposed Project under this alternative includes a sewer connection to the City of La Center system. The effects of this connection are discussed in **Section 4.10**, Public Services rather than as potential mitigation.

ALTERNATIVE E – RIDGEFIELD INTERCHANGE SITE

The Proposed Project under this alternative includes a sewer connection to the City of Ridgefield system. The effects of this connection are discussed in **Section 4.10**, Public Services rather than as potential mitigation.

ALTERNATIVE F – NO ACTION

With the No Action Alternative no project will be constructed; accordingly, no mitigation is considered.

4.14.4 INDIRECT EFFECTS FROM OPTIONAL MITIGATION OF WATER SUPPLY IMPACTS

Projected average day water demand for Alternatives A and B is 475,000 gpd, with Alternative C requiring 347,808 gpd, Alternative D requiring 25,000 gpd, and Alternative E requiring 458,632. Potential effects to water supply deficits in the CPU system may be mitigated through development of an on-site water supply well system. High quality water may be provided through the development of an on-site well field extracting water from the Sand and Gravel Aquifer (SGA) beneath the La Center and Ridgefield Interchange Sites. As probable yields for wells in the SGA are 500 to 1,000 gpm, a maximum of three wells would be required for Alternatives A, B, and E, and one well for Alternatives C and D. Surface disturbance for well drilling and completion would be small with correspondingly small effects to land forms and biota.

ALTERNATIVES A AND B – PREFERRED CASINO-RESORT PROJECT AND PREFERRED PROJECT WITHOUT REROUTING NW 319TH STREET

Geology and Soils

No significant indirect impacts to geology and soils would occur as a result of the development and use of on-site groundwater wells. The water wells would utilize relatively small surface areas for the wellhead, and the ground surface over underground pipelines would be backfilled, re-contoured, and revegetated as appropriate.

Water Resources

If the casino-resort project is built along with an on-site wastewater treatment system, water consumption would be reduced by 67%, and the groundwater withdrawn—with the exception of evaporative losses and losses for landscape irrigation, etc.—would be returned to the system as surface waters. Therefore, no significant indirect impact would occur to water resources as a result of the development and use of on-site groundwater wells.

Air Quality

No indirect impacts to air quality would occur as a result of the development and use of on-site groundwater wells because construction BMPs would be implemented where appropriate during installation of these wells. Groundwater extraction does not generally create air quality impacts.

Biological Resources

The proposed groundwater extraction may result in a reduction of surface water in nearby tributaries. A surface water reduction could adversely affect aquatic resources. These effects could be reduced through operation of an on-site wastewater treatment plant and a water recycling program.

Cultural Resources

It is possible that previously unknown cultural resources will be encountered during excavation for well drilling and construction of water lines resulting from the development and use of on-site groundwater wells. The implementation of procedures for inadvertent discoveries under Section 106 of the National Historic Preservation Act (NHPA) would prevent significant adverse effects.

Socioeconomic Conditions

No significant indirect impacts to socioeconomic conditions would occur as a result of the development and use of on-site groundwater wells because the water extracted from these wells would only be utilized on site and would involve relatively small amounts.

Transportation/Circulation

No significant indirect impacts to transportation or circulation would occur as a result of the development and use of on-site groundwater wells because all well drilling and construction of water lines would take place within the La Center Interchange Site.

Land Use

All land to be utilized is within the La Center Interchange Site. Therefore, no significant indirect impacts to land use would occur as a result of the development and use of on-site groundwater wells.

Public Services

No significant indirect impacts to public services would occur as a result of the development and use of on-site groundwater wells. No public water suppliers, other utility providers, law enforcement or fire and emergency medical services would be affected.

Noise

While some noise would be produced during the process of water well drilling and completion, it would be short-term and temporary in nature and confined to daylight hours. No significant indirect noise impacts would occur as a result of the development and use of on-site groundwater wells.

Hazardous Materials

Minor amounts of chlorine may be utilized in treating the well water; however, this would be done to the standards of the Safe Drinking Water Act. Therefore, no significant indirect hazardous materials impacts would occur as a result of the development and use of on-site groundwater wells.

Aesthetics

Wells would be screened from public view. Wellheads themselves are small and nondescript. No significant indirect impacts to aesthetics or community character would occur as a result of the development and use of on-site groundwater wells.

ALTERNATIVE C – REDUCED INTENSITY

Geology and Soils

No significant indirect impacts to geology and soils would occur as a result of the development and use of on-site groundwater wells. The water wells would utilize relatively small surface areas for the wellhead, and the ground surface over underground pipelines would be backfilled, re-contoured, and revegetated as appropriate.

Water Resources

No significant indirect impact would occur to water resources as a result of the development and use of on-site groundwater wells because of the limited amount of water required, and water conservation measures that would be implemented at the facility.

Air Quality

No significant indirect impacts to air quality would occur as a result of the development and use of on-site groundwater wells because construction BMPs would be implemented where appropriate during installation of these wells. Operation of drill rigs is expected to result in some short-term releases of air pollutants, including reactive organic gases (ROG). However, since the air basin is in attainment, impacts will not be significant.

Biological Resources

Indirect effects to biological resources would be similar to those resulting from Alternatives A and B, but of lesser intensity. These effects would not be significant.

Cultural Resources

It is possible that previously unknown cultural resources will be encountered during excavation for well drilling and construction of water lines resulting from the development and use of on-site groundwater wells. The implementation of procedures for inadvertent discoveries under Section 106 of the NHPA would prevent significant adverse effects.

Socioeconomic Conditions

No significant indirect impacts to socioeconomic conditions would occur as a result of the development and use of on-site groundwater wells because the water extracted from these wells would only be utilized on site and would involve relatively small amounts.

Transportation/Circulation

No significant indirect impacts to transportation or circulation would occur as a result of the development and use of on-site groundwater wells because all well drilling and construction of water lines would take place within the La Center Interchange Site.

Land Use

All land to be utilized is within the La Center Interchange Site. Therefore, no significant indirect impacts to land use would occur as a result of the development and use of on-site groundwater wells.

Public Services

No significant indirect impacts to public services would occur as a result of the development and use of on-site groundwater wells. No public water suppliers, other utility providers, law enforcement or fire and emergency medical services would be affected.

Noise

While some noise would be produced during the process of water well drilling and completion, it would be short-term and temporary in nature and confined to daylight hours. No significant indirect noise impacts would occur as a result of the development and use of on-site groundwater wells.

Hazardous Materials

Minor amounts of chlorine may be utilized in treating the well water; however, this would be done to the standards of the Safe Drinking Water Act. Therefore, no significant indirect hazardous materials impacts would occur as a result of the development and use of on-site groundwater wells.

Aesthetics

Wells would be screened from public view. Wellheads themselves are small and nondescript. No significant indirect impacts to aesthetics or community character would occur as a result of the development and use of on-site groundwater wells.

ALTERNATIVE D – BUSINESS PARK

Geology and Soils

No significant indirect impacts to geology and soils would occur as a result of the development and use of on-site groundwater wells. The water wells would utilize relatively small surface areas for the wellhead, and the ground surface over underground pipelines would be backfilled, re-contoured, and revegetated as appropriate.

Water Resources

Due to the small amount of water that would be withdrawn, impacts would be approximately 3% of the effects of Alternative A or B. Therefore, no significant indirect impact would occur to water resources as a result of the development and use of on-site groundwater wells.

Air Quality

No significant indirect impacts to air quality would occur as a result of the development and use of on-site groundwater wells because construction BMPs would be implemented where appropriate during installation of these wells. Operation of drill rigs is expected to result in some short-term releases of air pollutants including ROG. However, since the air basin is in attainment, impacts will not be significant.

Biological Resources

Development and use of on-site groundwater wells would not result in significant indirect effects to biological resources, due to the relatively small volumes of water withdrawn from the system and the small area of disturbance for construction of the on-site wells.

Cultural Resources

It is possible that previously unknown cultural resources will be encountered during excavation for well drilling and construction of water lines resulting from the development and use of on-site groundwater wells. The implementation of procedures for inadvertent discoveries pursuant to Section 106 of the NHPA would prevent significant adverse effects.

Socioeconomic Conditions

No significant indirect impacts to socioeconomic conditions would occur as a result of the development and use of on-site groundwater wells because the water extracted from these wells would only be utilized on site and would involve relatively small amounts.

Transportation/Circulation

No significant indirect impacts to transportation or circulation would occur as a result of the development and use of on-site groundwater wells because all well drilling and construction of water lines would take place within the La Center Interchange Site.

Land Use

All land to be utilized is within the La Center Interchange Site. Therefore, no significant indirect impacts to land use would occur as a result of the development and use of on-site groundwater wells.

Public Services

No significant indirect impacts to public services would occur as a result of the development and use of on-site groundwater wells. No public water suppliers, other utility providers, law enforcement or fire and emergency medical services would be affected.

Noise

While some noise would be produced during the process of water well drilling and completion, it would be short-term and temporary in nature and confined to daylight hours. No significant indirect noise impacts would occur as a result of the development and use of on-site groundwater wells.

Hazardous Materials

Minor amounts of chlorine may be utilized in treating the well water; however, this would be done to the standards of the Safe Drinking Water Act. Therefore, no significant indirect hazardous materials impacts would occur as a result of the development and use of on-site groundwater wells.

Aesthetics

Wells would be screened from public view. Wellheads themselves are small and nondescript. No significant indirect impacts to aesthetics and community character would occur as a result of the development and use of on-site groundwater wells.

ALTERNATIVE E – RIDGEFIELD INTERCHANGE SITE

On-site groundwater wells are not proposed as potential mitigation under Alternative E. Therefore, there would be no significant indirect impacts associated with the development and use of on-site groundwater wells.

ALTERNATIVE F – NO ACTION

Under the No Action Alternative, no project would be constructed. Accordingly, there would be no significant indirect impacts from development and use of on-site groundwater wells.

4.14.5 INDIRECT EFFECTS OF NATURAL GAS SUPPLY AND USE

ALTERNATIVE A AND B – PREFERRED CASINO-RESORT PROJECT AND PREFERRED PROJECT WITHOUT REROUTING NW 319TH STREET

Alternatives A and B would require construction of approximately 6,000 linear feet of 6-inch diameter natural gas pipeline by NW Natural Gas.

Geology and Soils

The construction is expected to take place within the right-of-way and disturbance zone for NW 31st Avenue. No significant indirect impacts to geology or soils is expected from construction and use of the natural gas line.

Water Resources

The proposed construction and operation will not involve the significant use of water resources or disturbance of surface or subterranean water resources. Accordingly, no significant indirect impacts to water resources are expected from construction and use of the natural gas line.

Air Quality

No significant indirect effects to air quality are expected to result from operation or use of the natural gas pipeline. However, short-term temporary impacts from construction activities may be expected. These impacts may be mitigated through implementation of BMPs required by Clark County, including dust suppression measures and not using sulfur diesel fuel in construction equipment.

Biological Resources

Confining construction to the right-of-way and disturbance zone for NW 31st Avenue is expected to reduce the potential for significant effects to biological resources. However, any construction activities taking place in roadside ditches could adversely affect wetlands and aquatic resources. As construction would be required to meet requirements of the CWA and Clark County guidelines for wetland protection, such adverse effects are not expected. Therefore, no significant indirect impacts to biological resources are expected from construction and use of the natural gas line.

Cultural Resources

Confining construction to the right-of-way and disturbance zone for NW 31st Avenue is expected to reduce the potential for significant effects to cultural resources. However, it is always possible that trenching operations for the new pipeline could encounter previously unknown cultural resources. Implementation of avoidance and data recording measures recommended by the Washington Office of Archaeology and Historic Preservation (OAHP) and Clark County ordinances can reduce such impacts to less than significant levels.

Socioeconomic Conditions

Provision of natural gas service to the La Center Interchange area may be expected to induce further growth in the I-5 corridor. Providing natural gas service, much like providing other services through the proposed extension of the La Center UGA, may be expected to remove some impediments to growth and further accelerate the shift of La Center's economic center closer to the I-5 corridor.

Anticipation of this growth is demonstrated by the decision of NW Natural Gas to upgrade the 4-inch diameter line along NW 299th Street to a 6-inch diameter line.

Transportation/Circulation

No significant indirect transportation or circulation impacts are expected as construction will be short-term and the majority of construction will take place alongside the existing roadway for NW 31st Avenue.

Land Use

No significant indirect impacts to land use are expected as land to be used for construction of the new pipeline has already been allocated for use as the right-of-way for NW 31st Avenue.

Public Services

Providing natural gas to the La Center Interchange site will not affect the ability of NW Natural Gas to provide service to other customers.

Noise

Operation of the proposed pipeline would not create any noise effects. However, some short-term temporary noise effects would result from construction of the pipeline. While construction would take place adjacent to an existing roadway, the roadway itself is in a predominantly rural area and quiet noise environment. Adverse effects can be mitigated through implementation of BMPs, including requiring of mufflers on construction equipment and restrictions on nighttime construction activities.

Hazardous Materials

Natural gas itself is not classified as a hazardous material. Some minor amounts of hazardous materials will be utilized in construction of the pipeline. These materials, including gasoline, diesel, antifreeze, and hydraulic fluid, may be released in spills during construction. Additionally, it is possible that previously unknown deposits of hazardous materials may be encountered during construction (trenching). Significant indirect effects may be prevented through implementation of BMPs and regulatory requirements of the CWA including the Oil Pollution Control Act (OPA) and of RCRA.

Aesthetics

As the pipeline will be constructed within a trench, which will be backfilled after construction, impacts to aesthetics and community character would be temporary and insignificant.

ALTERNATIVE C – REDUCED INTENSITY

Geology and Soils

The construction is expected to take place within the right-of-way and disturbance zone for NW 31st Avenue. No significant indirect impact to geology or soils is expected.

Water Resources

The proposed construction and operation will not involve the significant use of water resources or disturbance of surface or subterranean water resources. Accordingly, no effect upon water resources is anticipated.

Air Quality

No effects upon air quality are expected to result from operation of the pipeline. However, short-term temporary impacts from construction activities may be expected. These impacts may be mitigated through implementation of BMPs required by Clark County, including dust suppression measures and not using sulfur fuel in construction equipment.

Biological Resources

Confining construction to the right-of-way and disturbance zone for NW 31st Avenue is expected to reduce the potential for significant effects to biological resources. However, any construction activities taking place in roadside ditches could adversely affect wetlands and aquatic resources. As construction would be required to meet requirements of the CWA and Clark County guidelines for wetland protection, such adverse effects are not expected.

Cultural Resources

Confining construction to the right-of-way and disturbance zone for NW 31st Avenue is expected to reduce the potential for significant impacts to cultural resources. However, it is always possible that trenching operations for the new pipeline could encounter previously unknown cultural resources. Implementation of avoidance and data recording measures recommended by the OAHF and Clark County ordinances can reduce such impacts to less than significant levels.

Socioeconomic

Provision of natural gas service to the La Center Interchange area may be expected to induce further growth in the I-5 corridor. Providing natural gas service, much like providing other public services by the proposed extension of the La Center UGA, may be expected to remove some impediments to growth and further accelerate the shift of La Center's economic center closer to the I-5 corridor.

Transportation/Circulation

No significant indirect impacts to transportation or circulation are expected as construction will be short-term and the majority of construction will take place along side the existing roadway for NW 31st Avenue.

Land Use

No significant indirect impacts to land use are expected as land to be used for construction of the new pipeline has already been allocated for use as the right-of-way for NW 31st Avenue.

Public Services

Providing natural gas to the La Center Interchange site will not affect the ability of NW Natural Gas to provide service to other customers.

Noise

Operation of the proposed pipeline would not create noise effects. However, some short-term temporary noise effects would result from construction of the pipeline. While construction would take place adjacent to an existing roadway, the roadway itself is in a predominantly rural area and quiet noise environment. Adverse effects can be mitigated through implementation of BMPs, including requiring of mufflers on construction equipment and restrictions on nighttime construction activities.

Hazardous Materials

Natural gas itself is not classified as a hazardous material. Some minor amounts of hazardous materials will be used in construction of the pipeline. These materials, including gasoline, diesel, antifreeze and coolant, and hydraulic fluid, may be released in spills during construction. Additionally, it is possible that previously unknown deposits of hazardous materials may be encountered during construction (trenching). Significant effects may be prevented through implementation of best management practices and regulatory requirements of the CWA including the OPA and RCRA.

Aesthetics

As the pipeline will be constructed within a trench, which will be backfilled after construction, indirect impacts to aesthetics and community character will be temporary and insignificant.

ALTERNATIVE D – BUSINESS PARK

Alternative D will require construction of approximately 6,000 linear feet of 6-inch diameter natural gas pipeline by NW Natural Gas.

Geology and Soils

The construction is expected to take place within the right-of-way and disturbance zone for NW 31st Avenue. No significant indirect impact to geology or soils is expected.

Water Resources

The proposed construction and operation would not involve the significant use of water resources or disturbance of surface or subterranean water resources. Accordingly, no effect upon water resources is anticipated.

Air Quality

No effects upon air quality are expected to result from operation of the pipeline. However, short-term temporary impacts from construction activities may be expected. These impacts may be mitigated through implementation of BMPs required by Clark County including dust suppression measures and not using sulfur diesel fuel in construction equipment.

Biological Resources

Confining construction to the right-of-way and disturbance zone for NW 31st Avenue is expected to reduce the potential for significant effects to biological resources. However, any construction activities taking place in roadside ditches would adversely affect wetlands and aquatic resources. As construction would be required to meet requirements of the CWA and Clark County guidelines for wetland protection, such adverse effects are not expected.

Cultural Resources

Confining construction to the right-of-way and disturbance zone for NW 31st Avenue is expected to reduce the potential for significant effects to cultural resources. However, it is always possible that trenching operations for the new pipeline could encounter previously unknown cultural resources. Implementation of avoidance and data recording measures recommended by the OAHP and Clark County ordinances can reduce such impacts to less than significant levels.

Socioeconomic Conditions

Providing natural gas service to the La Center Interchange area may be expected to induce further growth in the I-5 corridor. Providing natural gas service, much like the provision of other services by the proposed extension of the La Center UGA, may be expected to remove some impediments to growth and further accelerate the shift of La Center's economic center closer to the I-5 corridor. Anticipation of this growth is demonstrated by the decision of NW Natural Gas to upgrade the 4-inch diameter line along NW 299th Street to a 6-inch diameter line.

Transportation/Circulation

No significant indirect impacts to transportation or circulation are expected as construction will be short-term and the majority of construction will take place alongside the existing roadway for NW 31st Avenue.

Land Use

No significant indirect impacts to land use are expected as land to be used for construction of the new pipeline has already been allocated for use as the right-of-way for NW 31st Avenue.

Public Services

Providing natural gas to the La Center Interchange will not affect the ability of NW Natural Gas to provide service to other customers.

Noise

Operation of the proposed pipeline would not create any noise effects. However, some short-term temporary noise effects would result from construction of the pipeline. While construction would take place adjacent to an existing roadway, the roadway itself is in a predominantly rural area and quiet noise environment. Adverse effects can be mitigated through implementation of BMPs including requiring of mufflers on construction equipment and restrictions on nighttime construction activities.

Hazardous Materials

Natural gas itself is not classified as a hazardous material. Some minor amounts of hazardous materials or materials regulated under the CWA will be utilized in construction of the pipeline. These materials, including gasoline, diesel fuel, antifreeze and hydraulic fluid, may be released in spills during construction. Additionally, it is possible that previously unknown deposits of hazardous materials may be encountered during construction (trenching). Significant effects may be prevented through implementation of BMPs and regulatory requirements of the CWA including the OPA and of RCRA.

Aesthetics

As the pipeline will be constructed within a trench, which will be backfilled after construction, indirect impacts to aesthetics and community character would be temporary and insignificant.

ALTERNATIVE E – RIDGEFIELD INTERCHANGE

There are natural gas pipelines, owned by NW Natural Gas, along N 65th Avenue and S 5th Street adjacent to the west and south of the Ridgefield Interchange Site. Both a 4-inch diameter distribution line and a 6-inch diameter high pressure line run along N 65th Avenue, while a 6-inch diameter high

pressure line runs along S 5th Street. Natural gas service can be extended from the 4-inch diameter distribution line onto the Alternative E Site. As natural gas service is already available in the Ridgefield Interchange area, serving the property with natural gas would not provide any inducements to growth. Similarly, as NW Natural Gas has adequate supplies and distribution capacity, service to the property will not constrain other developments.

ALTERNATIVE F – NO ACTION ALTERNATIVE

Under the No Action Alternative, no project would be constructed. Accordingly, there would be no significant indirect impacts from construction of natural gas pipelines to service the property.