
4.0 ALTERNATIVES

4.1 INTRODUCTION

CEQA Guidelines Section 15126.6(a) states that an environmental impact report shall describe and analyze a range of reasonable alternatives to a project. These alternatives should feasibly attain most of the basic objectives of the project, while avoiding or substantially lessening one or more of the significant environmental impacts of the project. An EIR need not consider every conceivable alternative to a project, nor is it required to consider alternatives that are infeasible. The discussion of alternatives shall focus on those which are capable of avoiding or substantially lessening any significant effects of the project, even if they impede the attainment of the project objectives to some degree or would be more costly [CEQA Guidelines Section 15126.6(b)]. However, "feasible" is defined in CEQA Section 21061.1 as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors."

The Lead Agency utilized a set of criteria to determine whether each alternative would feasibly attain most of the basic objectives of the proposed project but would avoid or substantially lessen any of the impacts resulting from implementation of the project. The criteria used includes the following:

- **Safety** – An alternative would not be considered feasible if it would fail to enhance safety for both vehicles and pedestrians in the project area.
- **Traffic Alleviation** – An alternative would not be considered feasible if it would fail to alleviate existing and/or future traffic levels to the City's adopted minimum standard of LOS "D", as determined by the City General Plan Circulation Element Policy, CI-13.
- **Geometrics** – An alternative would not be considered feasible if it would not meet standard geometric design requirements, as defined by American Association of State Highway and Transportation Officials (AASHTO), City of Elk Grove standards, and Sacramento County standards.
- **Right of Way Requirements** – An alternative would not be considered feasible if it would require the acquisition of excessive or unavailable right-of-way from property owners.
- **Cost** – An alternative would not be considered feasible if the cost is not reasonable in relation to the project purposes.

In accordance with the provisions of CEQA Guidelines Section 15126.6, the following alternatives to the proposed project are evaluated:

- Alternative A – No Project
- Alternative B – East Alignment South of Laguna South Channel
- Alternative C – East and West Alignment
- Alternative D – Standard Roadway Design

Alternatives B and C were designed to reflect concerns provided by USFWS, USACOE, and USEPA at the 404 permit pre-application meeting for the project held March 16, 2005. Alternative D presents the original project design prior to a detailed biological analysis.

The environmental effects of these alternatives are identified and compared with those resulting from the proposed project. Evaluation of the environmental resources for the proposed project and alternatives are provided in Section 5.1 through 5.12, and a summary of their impacts is

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provided in **Table 2.0-1** in Section 2.0 of this Draft EIR. **Table 4.0-1** and **Table 4.0-2** at the end of this section provide summaries of the comparisons of the biological impacts and construction costs of the alternatives with the proposed project. Based on resource impacts shown in **Table 2.0-1**, biological impacts shown in **Table 4.0-1**, and construction costs shown in **Table 4.0-2**, an "environmentally superior" alternative is identified.

4.2 ALTERNATIVES NOT SELECTED FOR ANALYSIS

4.2.1 OFF-SITE ALTERNATIVE

The project involves improvements to two existing arterial roadways and associated intersections. The project's purpose and objectives stem from existing and future traffic conditions at and near the project area. Reconstructing the roads at a different location would not fulfill the goals of the project. Therefore, no off-site alternatives were considered.

4.2.2 EASTERN ALIGNMENT WITH BRIDGE

Characteristics

The proposed configuration of the Eastern Alignment with Bridge is illustrated in **Figure 4.0-1**. This alternative shifts Franklin Boulevard to the east approximately 38 feet to minimize biological impacts on the west side of Franklin Boulevard. The portion of the eastward widening of Franklin Boulevard north of Percheron Drive continues northward to the bridge over the existing Laguna South Channel for approximately 520 feet. The bridge over Laguna South Channel would be widened to the east to a maximum of 40 feet. The bridge would consist of a vertical retaining wall supported by a row of pilings to support the east side of the widened Franklin Boulevard. North of the channel the road alignment shifts to the west to conform to the existing alignment at the south leg of the Franklin Boulevard/Elk Grove Boulevard intersection. No widening would occur on the west side of Franklin Boulevard south of Laguna South Channel culvert, except for slopes for two bus turnouts. None of the seasonal wetlands just south of Laguna South Channel on the west side of Franklin Boulevard would be impacted. The bridge over Laguna South Channel on the east side of Franklin Boulevard would be supported by concrete pilings driven into the creek bottom and banks. This alternative would have required 0.79 acres of the conservation easement on along Elk Grove Boulevard and 0.06 acres along Franklin Boulevard.

Under the Eastern Alignment with Bridge alternative the City would not require right-of-way acquisition from the SLNWR for any land south of Laguna South Channel. This alternative would require right-of-way acquisition of developed properties (up to 100 feet) on the east side of Franklin Boulevard just north of the channel to allow for the bridge to taper westward towards the existing intersection.

This alternative would minimize biological impacts and land use impacts to the west side of Franklin Boulevard, but would impact up to approximately 0.83 acre of waters of the U.S. due to the bridge widening over a portion of the channel. A hydrologic study of the potential impacts to the creek flow from the bridge pilings would have to be conducted prior to final construction plans. No vernal pools or elderberry bushes would be required to be removed under this alternative. Noise impacts from widening Franklin Boulevard 38 feet closer to residential areas east of the project were determined to be less than significant based on the noise study.



- Legend**
- VELB locations (surveyed 3/16/05)
 - Rejected Alternative Edge of Pavement
 - Rejected Alternative Limit of Construction
 - - - Existing City Right-of-Way
 - ▨ Waters of the US
 - ▨ Developed Parcel

Note: Rejected Alternative Limit of Construction is same as Proposed Plan for Elk Grove Blvd.



Source: Wood Rodgers, 2004; City of Elk Grove, 2005



City of Elk Grove Development Services

Figure 4.0-1
Rejected Alternative - Eastern Alignment with Bridge

Reasons for Rejecting this Alternative from Further Evaluation as a CEQA Alternative

This alternative would decrease biological impacts to resources on the west side of Franklin Boulevard; however, it would increase biological impacts on the east side of Franklin Boulevard. This alternative would require right-of-way for easements owned by the Elk Grove Community Services District (CSD) and Sacramento Regional County Sanitation District (SRCSD) along the east side of Franklin Boulevard. This would result in interference with the future South Sewer interceptor planned for sometime after the year 2010. This would require tearing up the east side of the roadway to install the sewer line.

This alternative is also rejected for further consideration because of its increased engineering and right-of-way costs, and logistical concern, which make it infeasible compared to the amount of environmental impacts it would avoid. Portions of the Eastern Alignment with Bridge design would encroach into portions of parcels currently under development as a Raley's Shopping Center and a Sacramento Municipal Utilities District (SMUD) electrical substation north of Laguna South Channel and south of Elk Grove Boulevard on the east side of Franklin Boulevard. City acquisition of right-of way required under this alternative would be extremely difficult and would involve requesting that the owners of these properties redesign and reconstruct their existing commercial and industrial facilities to accommodate the project.

According to estimates by the City's contracted engineer contained in *Alternative Franklin Boulevard Alignments Summary* by Wood Rodgers, June 1, 2005 (Alternative Alignments Summary), widening Franklin Boulevard to the east including constructing a bridge/retaining wall over a 520 foot portion of the Laguna South Channel would more than triple the cost of project construction, from \$4.15 million for the proposed project to \$12.65 million for this alternative. The increase in construction costs are primarily associated with bridge/retaining wall construction (an additional \$3.2 million over the proposed project), removal of existing pavement, gutter, and curbs on the east side of Franklin Boulevard and at the intersections of Percheron, Noriker, Blossom Ridge, and Poppy Ridge Roads (an increase of approximately \$694,000 over the proposed project), re-grading and paving new roadway (an increase of approximately \$1.3 million over the proposed project), installing new traffic signals and relocating streetlights east of their present locations (an increase of approximately \$900,000 over the proposed project), and demolishing the existing storm water drainage system and installing a new storm water drainage system on the east side of Franklin Boulevard (an increase of approximately \$178,000 over the proposed project).

Under this alternative additional costs for right-of way acquisition for portions of the developed parcels on the east side of Franklin Boulevard north of Laguna South Channel would be very high, considering that property owners would desire the City to compensate for temporary disruption of businesses during construction, and possibly the loss of land that affects owner's real estate revenues. The construction costs of this alternative are substantially greater than the costs normally associated with this type of project with the intended project purpose, and are unreasonably expensive to the City of Elk Grove. Thus, the Eastern Alignment with Bridge Alternative does not meet the criteria used for cost feasibility to achieve project objectives.

4.3 ALTERNATIVES SELECTED FOR ANALYSIS

CEQA Guidelines Section 15126.6(e) (1) states that a No Project Alternative shall be analyzed. The purpose of describing and analyzing a No Project Alternative is to allow decision makers to compare the impacts of approving a proposed project with the impacts of not approving the proposed project. The No Project Alternative analysis is not the baseline for determining whether the environmental impacts of a proposed project may be significant, unless the analysis is identical to the environmental setting analysis, which does establish that baseline.

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4.3.1 ALTERNATIVE A - NO PROJECT (AA)

Under this alternative, the project would not be constructed. The project site (portions of Franklin Boulevard and portions of Elk Grove Boulevard) would remain in its existing state.

Franklin Boulevard (between Poppy Ridge Road and Elk Grove Boulevard) is a three-lane roadway with left turn lanes at the southbound intersections between Poppy Ridge Road and Elk Grove Boulevard. The east side of Franklin Boulevard has roadway lighting, widened pavement, curb and gutter, and improved drainage facilities. The west side includes a six foot paved shoulder, dirt drainage ditch, and utility poles within the existing right-of-way.

Elk Grove Boulevard has three westbound and two eastbound through lanes with a paved shoulder, curb and gutter, and sidewalk on the north side from the Union Pacific Railroad overhead structure to Franklin Boulevard. Elk Grove Boulevard west of the UPRR overhead structure to Four Winds Drive is fully improved as above and striped for three lanes in each direction, but with the three eastbound lanes tapering to two eastbound lanes just west of the overhead structure.

No infrastructure improvements beyond those currently existing on or near the project site would be completed. Currently, there are no bicycle lanes on either roadway segment or bus turnouts on Franklin Boulevard.

4.3.2 ALTERNATIVE B – EASTERN ALIGNMENT SOUTH OF LAGUNA SOUTH CHANNEL (AB)

The proposed configuration of AB is illustrated in **Figure 4.0-2**. This alternative shifts Franklin Boulevard to the east approximately 38 feet to minimize potential biological impacts on the west side of Franklin Boulevard. Alternative AB would require 0.79 acres of the conservation easement on along Elk Grove Boulevard and 0.13 acres along Franklin Boulevard. The alignment of Franklin Boulevard under this alternative would shift back to the west to conform to the south end of the existing Laguna South Channel culvert. The only widening that would occur on the west side of Franklin Boulevard south of Laguna South Channel culvert would be for slopes for two bus turnouts. The shift in the road to the east just south of Laguna South Channel culvert would involve construction of a retaining wall along the channel bank above the ordinary high water line to support the shifted new roadway. Under AB the City would not require right-of-way acquisition from the SLNWR for land south of Laguna South Channel, but would require right-of-way acquisition for easements owned by the Elk Grove Community Services District (CSD) and Sacramento Regional County Sanitation District (SRCSD) along the east side of Franklin Boulevard between the existing road and the residential developments. The CSD easement is approximately 18 feet wide for landscaping, and the SRCSD easement is approximately 90 feet wide for a future sewer interceptor.

The Elk Grove Boulevard widening for AB would be the same as the proposed project and include an additional eastbound through lane and 4-5 foot wide bike lane, as well as an approximately 300 foot long dedicated right turn lane onto southbound Franklin Boulevard. The UPRR overcrossing will only require re-striping, and not include any widening of the structure itself. The project would not require widening at the base of the current engineered slope created by the County of Sacramento Public Works Department (County) as a ramp for Elk Grove Boulevard leading up to the UPRR overcrossing.



Figure 4.0-2
Alternative B - East Alignment



4.3.3 ALTERNATIVE C – EAST AND WEST ALIGNMENT (AC)

The proposed configuration of AC is illustrated in **Figure 4.0-3**. This alternative is designed to widen Franklin Boulevard to the west and east while staying within the City's existing right-of-way along the west side of Franklin Boulevard south of the Laguna South Channel to reduce potential biological impacts to the conservation easement property. Alternative AC would require 0.79 acres of the conservation easement on along Elk Grove Boulevard and 0.12 acres along Franklin Boulevard. This alternative widens Franklin Boulevard to the east approximately 18 feet, and to the west approximately 10 feet, except at the two bus turnouts, which would extend westward an additional 20 feet to the edge of the City's existing right-of-way. The portion of the eastward widening of Franklin Boulevard north of Percheron Drive would be constructed on top of the existing bank of Laguna South Channel above the ordinary high water mark. The intermittent drainage ditch that serves as storm water conveyance on the west side of Franklin Boulevard would be paved over and replaced with the same underground storm water conveyance system as the proposed project plan. A small strip of the seasonal wetlands just south of Laguna South Channel would be filled. Under AC the City would not require right-of-way acquisition from the SLNWR for any land south of Laguna South Channel, but would require right-of-way acquisition for easements owned by the Elk Grove Community Services District (CSD) and possibly a portion of Sacramento Regional County Sanitation District (SRCSD) along the east side of Franklin Boulevard between the existing road and the residential developments.

The Elk Grove Boulevard widening for AC would be the same as the proposed project and include an additional eastbound through lane and 4-5 foot wide bike lane, as well as an approximately 300 feet long dedicated right turn lane onto southbound Franklin Boulevard. The UPRR overcrossing will only require re-striping, but will not include any widening of the structure itself. The project would not require widening at the base of the current engineered slope created by the County of Sacramento Public Works Department (County) as a ramp for Elk Grove Boulevard leading up to the UPRR overcrossing.

4.3.4 ALTERNATIVE D – STANDARD ROADWAY CONFIGURATION (AD)

The proposed configuration of AD is illustrated in **Figure 4.0-4**. This alternative is designed to widen Franklin Boulevard to the west by approximately 22 feet and widen Elk Grove Boulevard to the south by 6 feet. The 22 feet of widening along Franklin Boulevard includes relocation of utility poles and a maintenance road west of the roadway. The Franklin Boulevard roadway and slopes would taper back to conform to both the north and south ends of the existing culvert over Laguna Channel. Alternative AD would require 0.79 acres of the conservation easement on along Elk Grove Boulevard and 3.02 acres along Franklin Boulevard. The major design features of this alternative are similar to the proposed project, with the following exceptions:

- A six-foot wide sidewalk would be added to the south side of Elk Grove Boulevard from the intersection of Franklin Boulevard to the UPRR overcrossing;
- An eight-foot wide shoulder including a four-foot bike lane would be added on the southbound direction (west) of Franklin Boulevard, and there would be no curb/gutter on the southbound direction (west side);
- The existing drainage ditch adjacent to the west side of Franklin Boulevard would be modified by paving it over and recreating it west of the new roadway toe of slope to function in the same capacity;
- Utility poles currently lining the west side of Franklin Boulevard would be relocated approximately 21 feet to the west of the new drainage ditch, within SMUD's 12.5 feet wide Public Utilities Easement (PUE) and within SLNWR;

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- A ten-foot wide gravel maintenance road would be graded west of the new drainage and east of the relocated utility poles to service the relocated utility poles. This maintenance road would be located within SMUD's PUE that is located within SLNWR;
- The two bus stops along the west side of Franklin Boulevard would be 11 feet wide instead of 7 feet wide, and the southernmost bus turnout would be constructed approximately 400 feet south of the proposed project design, just south of Blossom Ridge Road.

4.4 COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT

This section provides a summary of comparative impacts regarding environmental impacts and practicability determination for the alternative roadway configurations that are considered as part of this alternatives analysis. The alternatives are analyzed, along with the proposed project for all resource areas provided in Sections 5.1 through 5.12. **Table 4.0-1** and **Table 4.0-2** at the end of this section provide summaries of the biological impacts and construction costs of the alternatives evaluated in this section, as compared with the potential impacts of the proposed project.

Alternative B Comparative Impacts

Environmental Impacts of AB

AB would minimize biological impacts and land use impacts to the west side of Franklin Boulevard. No vernal pools, or elderberry bushes would need to be removed under this alternative. The seven oak trees on the west side of Franklin Boulevard would not be impacted, but the one oak tree on the east side of Franklin Boulevard would require removal. Noise impacts from widening Franklin Boulevard 38 feet closer to residential areas east of the project were determined to be less than significant, as shown in the noise study completed by ATS Consulting, LLC. The noise study determined that the long-term traffic noise impacts from implementation of AB (labeled as Alternative 1A in the noise study) would increase noise levels by less than 1.3 decibels, and that the existing sound walls would provide adequate noise protection for the residential areas east of Franklin Boulevard.

Practicability Determination of AB

Logistics

AB, like the proposed project, would require the City to acquire right-of-way from USFWS for encroachment into portions of SLNWR on the south side of Elk Grove Boulevard. Real estate negotiations and environmental permitting associated with this alternative appear to be logistically feasible at this time.

Potential additional logistical considerations for this alternative involve right-of-way acquisition for easements owned by the Elk Grove Community Services District (CSD) and Sacramento Regional County Sanitation District (SRCSD) along the east side of Franklin Boulevard between the existing road and the residential developments. The CSD easement is approximately 18 feet wide for landscaping, and the SRCSD easement is approximately 90 feet wide for a future sewer interceptor. In a letter to the City of Elk Grove Engineer dated April 15, 2005, SRCSD indicated that any proposed widening of Franklin Boulevard to the east in the sewer easement could interfere with installation and maintenance of the future South Sewer Interceptor planned for sometime after year 2010. This would require tearing up some of the roadway to install the sewer line. Traffic would be disrupted on Franklin Boulevard (by lane closures) and neighboring streets during construction of the sewer interceptor.



Figure 4.0-3
Alternative C - East and West Alignment





Figure 4.0-4
Alternative D - Standard Roadway Configuration



Cost

According to estimates in the Wood Rodgers Alternative Alignments Summary (June, 2005), as shown in **Table 4.0-1**, widening Franklin Boulevard to the east under AB would more than double the cost of project construction, from \$4.15 million for the proposed project to \$8.46 million for this alternative. The increase in construction costs associated with AB are primarily associated with removal of existing pavement, gutter, and curbs on the east side of Franklin Boulevard and at the intersections of Percheron, Noriker, Blossom Ridge, and Poppy Ridge Roads (an increase of approximately \$694,000 over the proposed project), re-grading and paving new roadway (an increase of approximately \$1.3 million over the proposed project), relocating traffic signals and streetlights east of their present locations (an increase of approximately \$900,000 over the proposed project), and removing the existing storm water drainage system and installing a new storm water drainage system on the east side of Franklin Boulevard (an increase of approximately \$178,000 over the proposed project).

The amount and cost of paving Franklin Boulevard to the east is more expensive than that of the proposed project because widening to the east would cause vertical conformance issues on the east side and, therefore, would require shifting of the road crown to the east. Moving the crown to the east would require extreme pavement overlay and/or pavement replacement. Costs for relocation of existing traffic signals to the east include installing temporary signals and additional traffic controls during this phase of construction.

Placing a road over a potential future SRCSD sewer interceptor could add significant costs to the project due to road demolition, sheet piling and other engineering modifications during the future installation of the interceptor, road reconstruction, and sewer maintenance. SRCSD would likely require the City to fund any extra costs associated with installation and maintenance of the future sewer interceptor due to the road being built over a portion of their easement. The City estimates that the cost of removing/rebuilding a 20 foot wide by 4,000 foot length section of Franklin Boulevard for sewer installation could add approximately \$960,000 to the costs associated with this project.

Costs for land acquisition for the portions of the SLNWR cannot be estimated until the City, USFWS, and the landowner agree on the mechanism for land transfer. The City estimates that biological mitigation costs for this alternative would be approximately \$34,020.

The costs of AB are substantially greater than the costs normally associated with this type of project with the intended project purpose, and are unreasonably expensive to the City of Elk Grove.

Existing Technology

All engineering design features associated with this alternative are technically feasible and available.

Alternative C Comparative Impacts

Environmental Impacts of AC

AC would slightly reduce biological impacts to the west side of Franklin Boulevard, and would minimize right-of-way acquisition of SLNWR land. The same wetlands and Waters of the U.S. on the west side of Franklin Boulevard would be impacted as for the proposed project, but impact acreage would be slightly less due to no encroachment into SLNWR land. The same seven oak

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trees and three elderberry bushes as in the proposed project would be required to be removed and mitigated under this alternative. Noise impacts from widening Franklin Boulevard 18 feet closer to residential areas east of the project were determined to be less than significant based on the noise study.

Practicability Determination of AC

Logistics

This alternative, like the proposed project, requires the City to acquire right-of-way from USFWS for encroachment into portions of SLNWR land on the south side of Elk Grove Boulevard. The City would not require any right-of-way from the SLNWR land south of Laguna South Channel. Real estate negotiations and environmental permitting associated with this alternative appear to be logistically feasible at this time.

Potential additional logistical considerations for this alternative involve right-of-way acquisition for an easement held by the Elk Grove Community Services District (CSD) and possibly a portion of an easement held by Sacramento Regional County Sanitation District (SRCSD) along the east side of Franklin Boulevard between the existing road and the residential developments. The CSD easement is approximately 18 feet wide for landscaping, and the SRCSD easement is approximately 90 feet wide for a future sewer interceptor. It is unknown at this time whether the Franklin Road Widening under this alternative would be impacted by the future sewer interceptor installation. In a letter to the City Engineer dated April 15, 2005, SRCSD indicated that any proposed widening of Franklin Boulevard to the east in the sewer right of way could interfere with installation and maintenance of the future South Sewer interceptor planned for sometime after year 2010. This would require tearing up some of the roadway to install the sewer line. Traffic would be disrupted on Franklin Boulevard (by lane closures) and neighboring streets during construction of the sewer interceptor.

Cost

According to estimates in the Wood Rodgers Alternative Alignments Summary (June, 2005), as shown in **Table 4.4-1**, widening Franklin Boulevard to the east under AC would more than double the cost of project construction, from \$4.15 million for the proposed project to \$8.44 million. The increase in construction costs are primarily associated with removal of existing pavement, gutter, and curbs on the east side of Franklin Boulevard and at the intersections of Percheron, Noriker, Blossom Ridge, and Poppy Ridge Roads (an increase of approximately \$694,000 over the proposed project), re-grading and paving new roadway (an increase of approximately \$1.2 million over the proposed project), installing new traffic signals and relocating streetlights east of their present locations (an increase of approximately \$900,000 over the proposed project), and demolishing the existing storm water drainage system and installing a new storm water drainage system on the east side of Franklin Boulevard (an increase of approximately \$178,000 over the proposed project).

Placing a road over a potential future SRCSD sewer interceptor could add significant costs to the project due to road demolition, sheet piling and other engineering modifications for installation of the interceptor, road reconstruction, and sewer maintenance. SRCSD would likely require the City to fund any extra costs associated with installation and maintenance of the future sewer interceptor due to the road being built over a portion of their easement. The City estimates that the cost of removing/rebuilding a 20 foot wide by 4000 foot length section of Franklin Boulevard for sewer installation could add approximately \$960,000 to the costs associated with this project.

Costs for land acquisition for the portions of the SLNWR cannot be estimated until the City, USFWS, and the landowner agree on the mechanism for land transfer. The City estimates that biological mitigation costs for this alternative would be approximately \$790,445.

The construction costs of AC are substantially greater than the costs normally associated with this type of project with the intended project purpose, and are unreasonably expensive to the City of Elk Grove.

Existing Technology

All engineering design features associated with this alternative are technically feasible and available.

Alternative D Comparative Impacts

Environmental Impacts of AD

AD would increase biological impacts to the west side of Franklin Boulevard, and would increase right-of-way acquisition of SLNWR land. The same wetlands and Waters of the U.S. types on the west side of Franklin Boulevard would be impacted as for the proposed project, but direct impact acreage and biological mitigation costs would increase due to further encroachment into SLNWR land. Portions of two additional vernal pools would be directly filled under this alternative.

Practicability Determination of AD

Logistics

This alternative requires the City to acquire right-of-way from USFWS for encroachment into portions of SLNWR land on the south side of Elk Grove Boulevard and the west side of Franklin Boulevard. Real estate negotiations and environmental permitting associated with this alternative appear to be logistically feasible at this time. However, the City is likely to encounter increased difficulty in communicating with government regulators and the environmentally concerned public regarding real estate negotiations, environmental permitting, and approval of the project the more SLNWR-managed land it proposes to acquire. The increased acreage of sensitive biological habitat affected by AD would likely increase the amount of mitigation lands with similar habitat that the City may be required to purchase for compensatory habitat creation/protection. Logistical difficulties may arise related to finding suitable local property for sale or easement acquisition for biological mitigation under this alternative to comply with anticipated conditions of the USFWS Biological Opinion and 404 permit conditions.

Cost

According to estimates in the Wood Rodgers Alternative Alignments Summary (June, 2005, widening Franklin Boulevard to the west under this alternative would cost approximately \$4.2 million, an increase of \$53,366 over the cost for the proposed project. The increase in pavement construction costs for this alternative are offset by decreases in costs from eliminating the curb and gutter and underground drainage system. All other costs would be roughly the same as the proposed project design.

Costs for land acquisition for the portions of the SLNWR cannot be estimated until the City, USFWS, and the landowner agree on the mechanism for land transfer. The City estimates that

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biological mitigation costs for this alternative would be approximately \$2.2 million. This biological mitigation cost increase of over \$1.3 million over the proposed project design is primarily attributed to the increased cost of mitigating two additional vernal pools and two additional elderberry plants.

Existing Technology

All engineering design features associated with this alternative are technically feasible and available.

Table 4.0-1 presents a quantitative comparison of biological effects for the proposed project and Alternatives A, B, C and D.

**TABLE 4.0-1
SUMMARY OF BIOLOGICAL IMPACTS FOR PROPOSED PROJECT AND ALTERNATIVES**

Alternative	Biological Effects Summary			
	Direct Impacts Other Waters of U.S.*	Direct Impacts Seasonal Wetlands*	Direct Impacts Vernal Pools**	Direct Impacts – VELB Stems***
Proposed Project	0.65	0.24	0.77	11/20
AA	0	0	0	0
AB	0.17	0.15	0	0
AC	0.65	0.21	0.77	0/9
AD	0.65	0.49	1.96	11/38

NOTES

* Acreage of Waters of the U.S. or seasonal wetlands that will contain a discharge.

** Total Acreage of vernal pools filled or partially filled.

*** Elderberry plants within 20' of project edge of construction with stems 1" diameter at base with exit holes/ stems > 1" diameter at base without exit holes

Table 4.4-2 shows a breakdown of construction costs by construction category for the proposed project and Alternatives A, B, C, and D from Wood Rodgers Alternatives Alignments Summary and summarizes the practicability determination based on three criteria (cost, logistics, and technical availability). The Alternative Alignments Summary breaks down construction costs categorically, and adds a 30% contingency to the estimate totals, except for the proposed project, where a 20% contingency is added because the project plans are more detailed. These criteria were used to determine practicability for the Clean Water Act 404(B)(1) Alternatives Analysis Report submitted to USACOE as part of the 404 Dredge and Fill individual permit application for this project.

TABLE 4.0-2
SUMMARY OF PRACTICABILITY DETERMINATION, INCLUDING CONSTRUCTION COST BREAKDOWN

Categories	Construction Cost Estimate Summary				
	Proposed Project	AA	AB	AC	AD
A. Earthwork & Demolition	\$161,292.00	\$0.00	\$855,310.00	\$855,310.00	\$855,310.00
B. Streets	\$1,983,249.00	\$0.00	\$3,186,741.00	\$3,186,209.00	\$2,114,709.00
C. Concrete	\$189,789.00	\$0.00	\$256,303.00	\$251,809.00	\$11,500.00
D. Drainage	\$177,976.00	\$0.00	\$355,952.00	\$355,952.00	\$0.00
E. Signals and Lighting	\$645,000.00	\$0.00	\$1,545,000.00	\$1,545,000.00	\$645,000.00
F. Landscaping & Irrigation	\$288,820.00	\$0.00	\$294,586.00	\$288,820.00	\$288,820.00
G. Structures	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
H. Miscellaneous	\$10,000.00	\$0.00	\$10,000.00	\$10,000.00	\$10,000.00
Subtotal Construction (A-H)	\$3,456,126.00	\$0.00	\$6,503,892.00	\$6,493,100.00	\$3,231,321.00
Contingency (30% of Subtotal except Project 65% Plans = 20% of Subtotal)	\$691,225.20	\$0.00	\$1,951,167.60	\$1,947,930.00	\$969,396.00
Construction Cost Total	\$4,147,351.20	\$0.00	\$8,455,059.60	\$8,441,030.00	\$4,200,717.00
Biological Mitigation Cost	\$852,460.00	\$0.00	\$34,020.00	\$790,445	\$2,160,625
Total Cost *	\$4,999,811.20	\$0.00	\$8,489,080	\$9,231,475	\$6,361,342
Cost Practicability	Yes	\$0.00	No	No	Yes
Logistical Practicability	Yes	\$0.00	Yes	Yes	Yes
Technical Practicability	Yes	\$0.00	Yes	Yes	Yes

* Total cost not including land/easement Right-of-Way acquisition and costs associated with potential sewer interceptor installation on east side of Franklin Blvd.

4.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Table 4.0-3 provides a summary of the potential impacts of the alternatives evaluated in this section, as compared with the potential impacts of the proposed project. Table 4.4-3 combines analysis based on resource impacts for the proposed project and Alternatives AA, AB, AC, and AD shown in **Table 2.0-1**, biological impacts shown in **Table 4.0-1**, and construction costs shown in **Table 4.0-2**. All of these factors were used to help identify an "environmentally superior" alternative.

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TABLE 4.0-3
COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT

Issue	AA – No Project	AB –Eastern Alignment	AC – Western & Eastern Alignment	AD – Standard Roadway Configuration
Land Use				
Consistency with provisions of USFWS conservation easement of the SLNWR	B	S	S	W
Consistency with provisions of the Elk Grove General Plan	W	S	S	S
Agricultural Resources				
Conversion of Agricultural Land/Loss of Farmland	B	B	S	W
Visual Resources/Light and Glare				
Adverse Effects on Scenic Vistas/Degrade Existing Visual Character	B	S	S	S
Adversely effects from new nighttime light and glare	B	S	S	S
Hazardous Materials/Risk of Upset				
Potential Exposure to Hazardous Materials/Contamination	B	S	S	S
Hazardous Materials Release During Construction	B	S	S	S
Potential for wildland fires	B	S	S	S
Transportation and Circulation				
Construction Traffic Impacts – Short-term impacts	B	S	S	S
Intersection Operations – Long-term Impacts	W	S	S	S
Noise				
Exposure to Noise in Excess of Standards	B	S	S	S
Permanent Noise Increase	S	S	S	S
Permanent Cumulative Noise Increase	S	S	S	S
Air Quality				
Temporary Construction Related Air Quality Impacts	B	S	S	S
Long-term Increased concentrations of Carbon Monoxide	S	S	S	S
Cumulatively Considerable Net Increase of Criteria Pollutants: Ozone and PM ₁₀	S	S	S	S
Hydrology				
Violate Water Quality Standards: Runoff and Erosion	B	S	S	S
Violate Water Quality Standards: Runoff during operation	B	S	S	S
Drainage Patterns, Surface Runoff, and Localized Flooding	B	S	S	S
Regional Water Quality, Runoff Patterns and Flooding	B	S	S	S

4.0 PROJECT ALTERNATIVES

Issue	AA – No Project	AB –Eastern Alignment	AC – Western & Eastern Alignment	AD – Standard Roadway Configuration
Geology/Soils				
Soil Erosion and Ground Stability	B	S	S	S
Unstable and Expansive Soils	B	S	S	S
Biological Resources				
Habitat Modification: Vernal Pools and Species	B	B	S	W
Habitat Modification: Swainson’s Hawk	B	S	S	S
Habitat Modification: Burrowing Owl	B	S	S	S
Habitat Modification: Nesting Raptors and Migratory Birds	B	S	S	S
Habitat Modification: VELB	B	B	S	W
Habitat Modification: Western Spadefoot Toad	B	B	S	S
Habitat Modification: Northwestern Pond Turtle	B	S	S	S
Habitat Modification: Giant Garter Snake	B	S	S	S
Jurisdictional Waters of the U.S. and Wetlands	B	B	B	W
Cumulative Biological Resource Impacts	B	S	S	S
Cultural Resources				
Undiscovered Cultural Resources	B	S	S	S
Public Services/Utilities				
Construction Impacts – Emergency Services response times	B	S	S	S
Impacts to Utilities	B	W	W	S
Operational Impacts	B	S	S	S
Construction/Mitigation Cost From Table 4.4-2	B	W	W	W

*B - Impacts better than those under proposed project
S - Impacts the same as those under proposed project, or no better or worse
W - Impacts worse than those under proposed project*

Based upon the evaluation described in this section, the No Project Alternative (AA) is considered to be the environmentally superior alternative. The No Project Alternative was determined to have less adverse environmental impacts than the proposed project on most environmental issues overall. However, the No Project Alternative would have a greater adverse impact on long-term traffic issues regarding intersection operations, pedestrian and bicycle safety, and bus service than would the proposed project. Also, the No Project Alternative would not meet any of the objectives of the proposed project, and would not be consistent with the City of Elk Grove General Plan Circulation Element.

The future year 2025 no project conditions would result in practically all study intersections and roadway segments operating at LOS “F” conditions under Year 2025 AM and PM peak hour periods with the existing intersection lane geometrics and control. As shown in Tables 5.4-7 and 5.4-8, four of the five intersections would operate at LOS “E” or LOS “F” in one or both of the AM/PM peak hour, and three of the six roadway segments would operate at LOS “F” under future 2025 conditions without the project. No mitigation measures are available other than the project to mitigate for this impact. Implementing AA would result in a significant and unavoidable impact to future LOS traffic conditions.

Under CEQA Guidelines Section 15126.6 (e)(2), if the environmentally superior alternative is the No Project Alternative, another environmentally superior alternative must be identified. As

4.0 PROJECT ALTERNATIVES

shown on **Tables 4.0-1 and 4.0-3**, AB would have the least amount of biological effects and would be the least environmentally damaging alternative. However, AB would have significant and unavoidable impacts to a future sewer interceptor planned by SRCSD parallel to the east side of Franklin Boulevard. Implementation of AB would add considerable construction costs associated with demolition and reconstruction of portions of Franklin Boulevard, and adversely impact future traffic and emergency services during sewer interceptor installation and maintenance. AB would also cost the City over twice as much as the proposed project.

AC would meet the project purpose and need; however, it would also have significant and unavoidable impacts to a future sewer interceptor planned by SRCSD on the east side of Franklin Boulevard, which would also add considerable construction costs and impact future traffic and emergency services during sewer interceptor installation and maintenance. Although AD would meet the project purpose and need and is practicable, it would result in significantly more biological impacts than the proposed project design, which is a modified version of AD incorporating design measures to decrease biological affects to the SLNWR.

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