

Alternatives Screening Report San Luis Transmission Project

Prepared for:



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1. Overview of Alternatives Evaluation Process

This alternatives screening report presents each potential alternative identified during the planning and scoping processes and the rationale for their retention or elimination from further consideration in the EIS/EIR. The range of alternatives considered in the screening analysis includes:

- Alternatives identified by Western, Reclamation, and Authority
- Alternatives identified during the public scoping process; and
- Alternatives identified by the EIS/EIR team during review of the Proposed Project impacts and meetings with affected agencies and interested parties.

1.1 Alternatives Screening Methods

The evaluation of alternatives will be done using a three-step screening process:

- Step 1:** Clearly define each alternative so each can be compared with other alternatives.
- Step 2:** Compare each alternative with the Proposed Project, using NEPA and CEQA criteria (defined below).
- Step 3:** Based on the results of Step 2, determine the suitability of each alternative for full analysis in the EIS/EIR. If the alternative is unsuitable, eliminate it from further consideration in the EIS/EIR.

1.2 NEPA and CEQA Requirements for Alternatives

After completing the steps defined above, the advantages and disadvantages of the alternatives are carefully analyzed with respect to NEPA and CEQA criteria for consideration of alternatives. Both NEPA and CEQA provide guidance on selecting a reasonable range of alternatives for evaluation in an EIS and EIR, and the requirements are similar.

1.2.1 NEPA

According to the Council on Environmental Quality's (CEQ) NEPA Regulations (40 C.F.R. 1502.14), an EIS must present the environmental impacts of the proposed action and alternatives in comparative form, defining the issues so they may be readily understood by the public and decision makers, and contributing to a basis for an informed and reasoned decision. The alternatives section shall:

- (a) Rigorously explore and objectively evaluate all reasonable alternatives. For alternatives that were eliminated from detailed study, briefly discuss the reasons they were eliminated.
- (b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.
- (c) Include reasonable alternatives not within the jurisdiction of the lead agency.
- (d) Include the alternative of no action.
- (e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.
- (f) Include appropriate mitigation measures not already included in the proposed action or alternatives.

The CEQ has stated that “[r]easonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense rather than simply desirable from the standpoint of the applicant” (CEQ, 1983).

1.2.1.1 Consistency with Purpose and Need

CEQ NEPA Regulations (40 C.F.R. 1502.13) require a statement “briefly specifying the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action.” Alternatives must be consistent with Western’s purpose and need for the SLTP, which was defined as follows:

Western’s transmission contract with PG&E, under which power is transmitted between Western’s Tracy Substation and the San Luis Unit, will end in spring 2016. The San Luis Unit is a key component in delivering water for municipal, industrial and irrigation supply. The purpose of the SLTP is to minimize expected power delivery cost increases for operating the San Luis Unit.

1.2.1.2 Feasibility

The environmental consequences of the alternatives, including the proposed action, are to be discussed in the EIS/EIR in accordance with CEQ NEPA Regulations (40 C.F.R. 1502.16). The discussion shall include “Possible conflicts between the proposed action and the objectives of federal, regional, state, and local land use plans, policies and controls for the area concerned.” Other feasibility factors to be considered may include cost, logistics, technology, and social, environmental, and legal factors (Bass et al., 2001). The feasibility factors are substantially the same as described for CEQA in Section 1.2.2.2, below.

1.2.2 CEQA

An important aspect of EIR preparation is the identification and assessment of a range of potentially feasible alternatives that have the potential for avoiding or substantially lessening the impacts of a proposed project. The State CEQA Guidelines require consideration of the No Project Alternative (Section 15126.6(e)) and selection of a range of reasonable alternatives (Section 15126.6(c)). The EIR must adequately assess these alternatives to allow for a comparative analysis for consideration by decision makers (Section 15126.6(d)). The State CEQA Guidelines (Section 15126.6(a)) state that:

An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation.

To comply with CEQA’s requirements, each alternative will be evaluated in three ways:

- Does the alternative accomplish all or most of the project objectives?
- Is the alternative potentially feasible (from economic, environmental, legal, social, technological standpoints)?
- Does the alternative avoid or substantially lessen any significant effects of the Proposed Project (including consideration of whether the alternative itself could create significant effects potentially greater than those of the Proposed Project)?

Each of these factors are described in more detail in the following sections.

1.2.2.1 Consistency with Project Objectives

CEQA requires analysis of a range of reasonable alternatives that might feasibly attain most of the basic objectives of the project while avoiding or substantially lessening environmental impacts. The Authority identified the following objectives for the proposed project:

1. Obtain durable and long-term, cost certain and efficient transmission delivery of Central Valley Project power from federal power generation sites to the major pumping stations of the San Luis unit to reliably deliver water to the Authority's member agencies;
2. Locate and install transmission facilities in a safe, efficient, and cost effective manner that meets project needs while minimizing environmental impacts;
3. Locate facilities to minimize the potential of environmental impacts resulting from damage by external sources such as geologic hazards;
4. Maximize the use of existing transmission corridors and rights-of-way (ROW) in order to minimize effects on previously undisturbed land and resources; and
5. Obtain stable and reliable transmission that meets project needs in a cost-effective and timely manner.

1.2.2.2 Feasibility

The State CEQA Guidelines (Section 15364) define feasibility as:

... capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

According to the State CEQA Guidelines (Section 15126.6(f)(1)), among the factors that may be taken into account when addressing the potential feasibility of alternatives include site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or other regulatory limitations, jurisdictional boundaries, and proponent's control over alternative sites in determining the range of alternatives to be evaluated in the EIR. For the screening analysis, the potential feasibility of potential alternatives will be assessed taking the following factors into consideration:

- **Economic Feasibility.** Is the alternative so costly that implementation would be prohibitive?
- **Environmental Feasibility.** Would implementation of the alternative cause substantially greater environmental damage than the Proposed Project, thereby making the alternative clearly inferior from an environmental standpoint?
- **Legal Feasibility.** Does the alternative have the potential to avoid lands that have legal protection that may prohibit or substantially limit the feasibility of permitting a high voltage transmission line?
- **Regulatory Feasibility.** Is the alternative consistent with regulatory standards for transmission system design, operation, and maintenance?
- **Social Feasibility.** Would the alternative cause significant benefit or damage to the socioeconomic structure of the community or be consistent or inconsistent with important community values and needs?

- **Technical Feasibility.** Is the alternative feasible from a technological perspective, considering available technology? Are there any construction, operation, or maintenance constraints that cannot be overcome?

1.2.2.3 Potential to Eliminate Significant Environmental Effects

A key CEQA requirement for identifying and assessing alternatives is that the alternatives must have the potential to “avoid or substantially lessen any of the significant effects of the project” (State CEQA Guidelines Section 16126.6(a)). If an alternative is identified that clearly does not have the potential to provide an overall environmental advantage as compared to the proposed project, it is usually eliminated from further consideration. At the screening stage, it is not possible to evaluate all of the impacts of the alternatives in comparison to the Proposed Project with absolute certainty, nor is it possible to quantify impacts. However, it is possible to identify elements of an alternative that are likely to be the sources of impact and to relate them, to the extent possible, to general conditions in the subject area.

2. Alternative Descriptions and Determinations

2.1 Alternatives Retained for Analysis in the EIS/EIR

2.1.1 Corridor Alternatives

Patterson Pass to Horseshoe Road 500-kV Corridor

Alternative Description

Western developed this alternative to reduce visual impacts to motorists along Interstate 5. As shown in Figures 1, 2, and 3 this alternative corridor would extend from about Patterson Pass in the north to near Horseshoe Road in the south. It would run parallel to the Proposed Project, but on the western side of the existing high-voltage transmission lines, further from Interstate 5 for about 50 miles. At this point, it would cross the existing high-voltage line and run along the east side, heading southwest for about 1.3 mile to where it would join the West of Cemetery 500-kV Corridor near Horseshoe Road.

Consideration of NEPA/CEQA Criteria

Purpose and Need, Project Objectives

This alternative could meet the Purpose and Need as well as the Project Objectives, particularly as they relate to use of existing transmission line corridors.

Feasibility

This alternative is potentially feasible.

Environmental Considerations

Advantages

Visual Resources. This alternative would be located farther from Interstate 5, and therefore may be less visible to motorists in comparison to the Proposed Project.

Disadvantages

This alternative would potentially have no environmental disadvantages in comparison to the Proposed Project.

Determination

Retained for Analysis. This alternative could meet the Purpose and Need and Project Objectives and is potentially feasible. It would potentially reduce visual impacts along Interstate 5. Therefore, this alternative is retained for analysis in the EIS/EIR.

West of Cemetery 500-kV Corridor

Alternative Description

Western developed this alternative corridor in response to comments requesting the avoidance of proposed solar development north of the O'Neill Forebay. It was also developed to avoid the O'Neill Forebay Wildlife Area, which is located on the east side of the O'Neill Forebay. As shown in Figure 3, this alternative corridor would deviate from the Proposed Project at about Butts Road and extend southwest 1.0 mile before turning south to follow along the west side of an existing 500-kV transmission line for 1.1 mile. It would then deviate from the existing transmission corridor and extend around the west side of the San Joaquin Valley National Cemetery (Cemetery) for about 2.6 miles. At this point, it would begin to follow an existing PG&E 500-kV corridor for about 1.4 miles until turns southwest to where it rejoins the Proposed Project near the San Luis Substation.

Consideration of NEPA/CEQA Criteria

Purpose and Need, Project Objectives

This alternative could meet the Purpose and Need as well as most of the Project Objectives; however it would not maximize the use of existing transmission corridors and ROW. For about 2.6 miles as it extends along the west side of the Cemetery and for about 1.0 mile before it terminates at the San Luis Substation, the corridor would not be adjacent to existing transmission ROW.

Feasibility

This alternative is potentially feasible.

Environmental Considerations

Advantages

Land Use

This alternative would avoid potential land use conflicts that could occur under the Proposed Project as it would avoid approved solar development north of the O'Neill Forebay and the O'Neill Forebay Wildlife Area east of the O'Neill Forebay.

Biological Resources. By avoiding the wildlife area on the east side of the O'Neill Forebay, this alternative would reduce potential impacts to habitat in comparison to the Proposed Project.

Disadvantages

This alternative would potentially have no environmental disadvantages in comparison to the Proposed Project.

Determination

Retained for Analysis. This alternative could meet the Purpose and Need as well as the Project Objectives, and is potentially feasible. It would address certain concerns and recommendations expressed in scoping comments and reduce the potential for land use conflicts associated with approved solar development north of the O'Neill Forebay and the Wildlife Area east of the O'Neill Forebay. By avoiding the Wildlife Area, it would also reduce biological impacts in comparison to the Proposed Project. Therefore, this alternative is retained for analysis in the EIS/EIR.

West of O'Neill Forebay 70-kV Corridor

Alternative Description

Western developed this alternative corridor to avoid the O'Neill Forebay Wildlife Area, which is located on the east side of the O'Neill Forebay. As shown in Figure 3, this alternative would extend from the San Luis Substation, cross Highway 152, and run northeast for about 1.0 mile. At this point, it would begin to follow an existing PG&E transmission corridor for about 2.6 miles around the west side of the O'Neill Forebay until it just south of McCabe Road. It would then turn sharply to the southeast around the north side of the Forebay, following another PG&E high-voltage transmission corridor, to where it terminates at the O'Neill Substation.

Consideration of NEPA/CEQA Criteria

Purpose and Need, Project Objectives

This alternative could meet the Purpose and Need as well as most of the Project Objectives.

Feasibility.

This alternative is potentially feasible.

Environmental Considerations

Advantages

Land Use. This alternative would avoid potential land use conflicts that could occur under the Proposed Project as it would avoid the O'Neill Forebay Wildlife Area east of the O'Neill Forebay.

Biological Resources. By avoiding the wildlife area on the east side of the O'Neill Forebay, this alternative would reduce potential impacts to habitat in comparison to the Proposed Project.

Disadvantages

This alternative would potentially have no environmental disadvantages in comparison to the Proposed Project.

Determination

Retained for Analysis. This alternative could meet the Purpose and Need as well as the Project Objectives and is potentially feasible. It would reduce potential land use conflicts and biological impacts as compared to the Proposed Project by avoiding the O'Neill Forebay Wildlife Area. Therefore, this alternative is retained for analysis in the EIS/EIR.

Los Banos to Dos Amigos 230-kV Corridor

Alternative Description

Western developed this alternative to reduce visual impacts to motorists along Interstate 5. As shown in Figure 3, this alternative corridor would extend about 6 miles south from the Los Banos Substation. It would run parallel to the Proposed Project, but on the western side of the existing high-voltage transmission lines, further from Interstate 5.

Consideration of NEPA/CEQA Criteria

Purpose and Need, Project Objectives

This alternative could meet the Purpose and Need as well as the Project Objectives, particularly as they relate to use of existing transmission line corridors.

Feasibility

This alternative is feasible.

Environmental Considerations

Advantages

Visual Resources. This alternative would be located farther from Interstate 5, and therefore may be less visible to motorists in comparison to the Proposed Project.

Disadvantages

This alternative would potentially have no environmental disadvantages in comparison to the Proposed Project.

Determination

Retained for Analysis. This alternative could meet the Purpose and Need and Project Objectives and is potentially feasible. It would potentially reduce visual impacts along Interstate 5. Therefore, this alternative is retained for analysis in the EIS/EIR.

Jasper Sears Road 230-kV Corridor

Alternative Description

Western developed this alternative in response to scoping comments about potential land use conflicts with proposed solar development, and current and proposed residential development, south of the Los Banos Substation. As shown in Figure 3, this alternative corridor would exit the Los Banos Substation from the south and follow Jasper Sears Road and Western's existing 500-kV transmission line for about 9 miles before turning due east for about 5.3 miles to join the Proposed Project.

Consideration of NEPA/CEQA Criteria

Purpose and Need, Project Objectives

This alternative could meet the Purpose and Need and most Project Objectives; however, it would not maximize the use of existing transmission corridors and ROW. For about 5.3 miles from where the corridor turns east to where it joins the Proposed Project, the corridor would not be adjacent to existing transmission ROW.

Feasibility

This alternative is potentially feasible.

Environmental Considerations

Advantages

Land Use. This alternative would reduce conflict with proposed solar development, and existing and proposed residential development, south of the Los Banos Substation. Therefore, it would reduce potential land use conflicts that could result from an incompatibility of the Proposed Project with the proposed development and existing land use management plans.

Disadvantages

Ground Disturbance. This alternative would be longer than the Proposed Project and therefore would result in increased ground disturbance.

Determination

Retained for Analysis. This alternative could meet the Purpose and Need and most of the Project Objectives, and is potentially feasible. It would result in more ground disturbance than the Proposed Project. However, it would address certain concerns and recommendations expressed in scoping comments and reduce the potential for land use conflicts in comparison to the Proposed Project. Therefore, this alternative is retained for analysis in the EIS/EIR.

2.1.2 Voltage Alternatives

230-kV Transmission Line

Alternative Description

Western developed this alternative to provide the option of constructing a lower voltage transmission line in comparison to the 500-kV portion of the Proposed Project. Under this alternative, a 230-kV line would be constructed between the Tracy and San Luis Substations within either the Proposed Project or the Alternative Corridors. The 230-kV transmission line between the San Luis and Dos Amigos Substations, as well as the 70-kV transmission line between the San Luis and O'Neill Substations, are the same as the Proposed Project.

Consideration of NEPA/CEQA Criteria

Purpose and Need, Project Objectives

This alternative could meet the Purpose and Need as well as the Project Objectives.

Feasibility

This alternative is potentially feasible.

Environmental Considerations

Advantages

Ground Disturbance and Visual Resources. This alternative would require towers that would be shorter and have a smaller disturbance area than those of the Proposed Project, and would therefore potentially reduce ground disturbance and visual impacts in comparison to the Proposed Project. In addition, less substation expansion and modification at the Tracy and Los Banos Substations would be needed in comparison to the Proposed Project.

Disadvantages

This alternative would potentially have no environmental disadvantages in comparison to the Proposed Project.

Determination

Retained for Analysis. This alternative could meet the Purpose and Need and Project Objectives, and is potentially feasible. It would potentially reduce ground disturbance and visual impacts in comparison to the Proposed Project. Therefore, this alternative is retained for analysis in the EIS/EIR.

500-kV Transmission Line Operated at 230-kV

Alternative Description

Western developed this alternative to provide operating flexibility. Under this alternative a 500-kV line would be constructed between the Tracy and Los Banos Substations within either the Proposed or Alternative corridors. However, it would be operated at 230-kV. The 230-kV transmission line between the San Luis and Dos Amigos substations, as well as the 70-kV transmission line between the San Luis and O'Neill substations, are the same as the Proposed Project.

Consideration of NEPA/CEQA Criteria

Purpose and Need, Project Objectives

This alternative could meet the Purpose and Need as well as the Project Objectives.

Feasibility

This alternative is potentially feasible.

Environmental Considerations

Advantages

Noise and EMF. This alternative could reduce corona noise and EMF in comparison to the Proposed Project.

Disadvantages

This alternative would potentially have no environmental disadvantages in comparison to the Proposed Project.

Determination

Retained for Analysis. This alternative could meet the Purpose and Need and Project Objectives, and is potentially feasible. It could potentially reduce corona noise and EMF in comparison to the Proposed Project. Therefore, this alternative is retained for analysis in the EIS/EIR.

2.2 Alternatives Eliminated from Analysis in the EIS/EIR

Mountain House Road 500-kV Corridor

Alternative Description

Western developed this alternative to minimize the length of the Project and reduce impacts to houses in the Mountain House Developments. As shown in Figure 1, this alternative corridor would exit the Tracy Substation and extend due south for about 0.9 mile along Mountain House Road, then turn southeast for approximately 0.8 mile through agricultural fields before intersecting the Proposed Project at the existing transmission corridor. This corridor would be about 0.2 mile shorter than the Proposed Project. Several landowners expressed opposition to this alternative corridor in scoping comments based on concerns related to noise, property devaluation, electric and magnetic fields (EMF), visual resources, agricultural operations, proximity to the Mountain House Elementary School, and others.

Consideration of NEPA/CEQA Criteria

Purpose and Need, Project Objectives

This alternative could meet the Purpose and Need and most Project Objectives; however, it would not maximize the use of existing transmission corridors ROW. All of this corridor would be located within agricultural fields and not adjacent to existing transmission ROW.

Feasibility

A portion of this alternative would be located on the eastern side of Mountain House Road, less than 100 feet from the existing Mountain House Elementary School, which is located on the western side of Mountain House Road. The distance between the alternative corridor ROW and the Mountain House Elementary School may be incompatible with the California Department of Education guidelines for school siting¹. Due to possible EMF concerns, these guidelines state that there must be 350 feet from the edge of an easement for a 500-550 kV line to any part of a school property line. The Project would require up to a 250-foot-wide ROW easement for a 500-kV transmission line within the 500-foot alternative corridor. As such, this alternative may be infeasible.

Environmental Considerations

Advantages

¹ <http://www.cde.ca.gov/ls/fa/sf/schoolsiteguide.asp#highvoltage>

Air Quality, Noise, and Soil Erosion. This alternative would be 0.2 mile shorter than the Proposed Project, which would result in slightly shorter and less-intense construction impacts related to air quality, noise, and soil erosion.

Disadvantages

Agricultural Resources. This alternative would bisect agricultural fields where there are no existing transmission lines. This would result in more interference with agricultural operations in comparison to the Proposed Project, which would run along property boundaries and an existing transmission line.

Noise, and Health and Safety. This alternative would run along Mountain House Road, across the street from rural houses and the Mountain House Elementary School. Closer to residential receptors and school visitors; potentially increased construction traffic and noise, and increased EMF concerns in comparison to the Proposed Project.

Visual Resources. Given its location adjacent to Mountain House Road, this alternative would be more visible to residents and school visitors than the Proposed Project, which would be about 0.5 mile east of the road and adjacent to an existing transmission line.

Determination

Eliminated from Analysis. This alternative could meet the Purpose and Need and most Project Objectives. In comparison to the Proposed Project, however, it would result in greater agricultural and visual impacts and construction disturbance to nearby residents. Also, it may be regulatorily infeasible. Therefore, this alternative will not be fully analyzed in the EIS/EIR.

Grant Line Road 500-kV Corridor

Alternative Description

Western developed this alternative corridor to minimize canal crossings. As shown in Figure 1, it would deviate from the Proposed Project and the existing transmission line corridor to remain along the east side of the Delta-Mendota Canal for about 0.7 mile. This short alternative segment would be about the same length as the Proposed Project, but would be about 0.25 miles closer to a new residential community along Grant Line Road in unincorporated Tracy.

Consideration of NEPA/CEQA Criteria

Purpose and Need, Project Objectives

This alternative could meet the Purpose and Need and most Project Objectives; however, it would not maximize the use of existing transmission corridors and ROW. For about 0.7 miles near Grant Line Road, the corridor would be located within agricultural fields and not adjacent to existing transmission ROW.

Feasibility

This alternative is potentially feasible.

Environmental Considerations

Advantages

Land Use. This alternative would avoid two crossings of the Delta-Mendota Canal, thereby reducing any potential for conflicts with canal operation and maintenance activities.

Disadvantages

Visual Resources. This alternative would be located about 0.20 mile from an existing residential community in unincorporated Tracy. It would be more visible to residents than the Proposed Project, which would be about 0.25 mile further west and adjacent to an existing transmission line.

Determination

Eliminated from Analysis. This alternative could meet the Purpose and Need and most Project Objectives, and is potentially feasible. In comparison to the Proposed Project, it would require fewer canal crossings and therefore result in less potential for conflicts with canal operations, but it would be nearer to houses outside of any existing transmission corridor and therefore result in greater visual impacts. Due to its potential for greater environmental impacts, this alternative will not be fully analyzed in the EIS/EIR.

Delta-Mendota Canal/Interstate 580 500-kV Corridor

Alternative Description

Western developed this alternative in response to comments requesting an alternative that uses the corridor between the Delta-Mendota Canal and Interstate 580, to avoid houses west of the Proposed Project near Patterson Pass Road. The California Aqueduct runs down the center of this corridor and therefore, more specifically, the route will be located between the California Aqueduct and Interstate 580. This alternative also avoids impacts to the Tracy Hills conservation easements located west of Interstate 580. As shown in Figure 1, this corridor would deviate from the Proposed Project just south of the California Aqueduct and would continue south for about 7.3 miles between the California Aqueduct and Interstate 580 until it turns southwest, across Interstate 580, to rejoin the Proposed Project.

Consideration of NEPA/CEQA Criteria

Purpose and Need, Project Objectives

This alternative could meet the Purpose and Need and most Project Objectives; however, it would not maximize the use of existing transmission corridors and ROW. The full extent of this alternative would be located within agricultural fields or open space and not adjacent to existing transmission ROW.

Feasibility

This alternative is not technically feasible due to engineering constraints between the California Aqueduct and Interstate 580, just south of the intersection of Interstate 580 and Mountain House Road. In some areas, the spacing between the California Aqueduct and Interstate 580 is only 21 to 100 feet wide, which would not allow sufficient space for construction, operation, and maintenance of a transmission line.

Environmental Considerations

Advantages

Land Use. This alternative would avoid existing conservation easements west of Interstate 580. Therefore, it would eliminate the potential for land use conflicts that could result from an incompatibility of the Proposed Project with existing wildlife or land management plans.

Biological Resources. By avoiding the conservation easements west of Interstate 580, this alternative would reduce potential impacts to habitat in comparison to the Proposed Project.

Disadvantages

Visual Resources. This alternative would increase visual impacts in comparison to the Proposed Project as it would introduce new transmission infrastructure to an area previously without transmission lines.

Determination

Eliminated from Analysis. This alternative could meet the Purpose and Need and most Project Objectives. It would address public comments regarding the proximity of the Proposed Project to houses near Patterson Pass Road. It would reduce land use and biological resources impacts in comparison to the Proposed Project. However, this alternative would be outside of any existing transmission corridor, thereby resulting in greater potential visual impacts than the Proposed Project. It would be technically infeasible as certain locations between the California Aqueduct and Interstate 580 are too narrow to allow for construction, operation, and maintenance of a transmission line. This alternative is infeasible due to engineering constraints, and therefore will not be fully analyzed in the EIS/EIR.

East of Delta-Mendota Canal 500-kV Corridor

Alternative Description

Western developed this alternative corridor to address public comments about the proximity of the Proposed Project to houses near Patterson Pass Road. It would provide another option to the Delta-Mendota Canal/Interstate 580 Alternative. As shown in Figure 1, it would deviate from the Proposed Project 0.1 mile south of Interstate 205 and continue southeast on the east side of the Delta-Mendota Canal for about 3 miles. It would then cross the California Aqueduct and extend southeast, traversing agricultural fields, between the Delta-Mendota Canal and the California Aqueduct for about 1.3 miles before crossing the California Aqueduct to join the Delta-Mendota Canal/Interstate 580 Alternative.

Consideration of NEPA/CEQA Criteria

Purpose and Need, Project Objectives

This alternative would meet the Purpose and Need and most Project Objectives; however, it would not maximize the use of existing transmission corridors and ROW. All of this alternative would be located within agricultural fields or open space and not adjacent to existing transmission ROW.

Feasibility

This alternative is not technically feasible due to engineering constraints. About 0.75 mile southeast of where the alternative corridor deviates from the Proposed Project, the alternative would pass between the Delta-Mendota Canal and existing cell towers. The spacing between the Delta-Mendota Canal and the existing cell towers is about 150 feet wide, which would not allow sufficient space for construction, operation, and maintenance of a transmission line.

Environmental Considerations

Advantages

Land Use. This alternative would avoid conservation easements along the Interstate 580 corridor. Therefore, it would avoid the potential for land use conflicts that could result from incompatibility of the Proposed Project with existing wildlife or land management plans.

Biological Resources. By avoiding the conservation easements along Interstate 580, this alternative would reduce potential impacts to habitat in comparison to the Proposed Project.

Disadvantages

Visual Resources. This alternative may increase visual impacts in comparison to the Proposed Project as it would introduce new transmission infrastructure to an area without transmission lines.

Agricultural Resources. This alternative would cross agricultural areas where there are no existing transmission lines. This would potentially result in more interference with agricultural operations in comparison to the Proposed Project.

Determination

Eliminated from Analysis. This alternative could meet the Purpose and Need and most Project Objectives. It would address public comments about the proximity of the Proposed Project to houses in the vicinity of Patterson Pass Road. It would potentially reduce land use and biological resources impacts, but potentially increase visual and agricultural impacts in comparison to the Proposed Project. This alternative is infeasible due to engineering constraints, therefore it will not be fully analyzed in the EIS/EIR.

West of Cemetery 2 500-kV Corridor

Alternative Description

Western developed this alternative corridor to avoid approved solar development and to reduce visual impacts to visitors of the San Joaquin National Cemetery. It would provide another option to the West of Cemetery Alternative that is further from the San Joaquin National Cemetery. As shown in Figure 3, this alternative would extend south from the West of Cemetery Alternative Corridor at about 1.4 miles northeast of the Cemetery. This corridor would follow a valley, behind a ridge line, until it turns east to rejoin the West of Cemetery Alternative about 1 mile southeast of the Cemetery.

Consideration of NEPA/CEQA Criteria

Purpose and Need, Project Objectives

This alternative could meet the Purpose and Need and most Project Objectives; however, it would not maximize the use of existing transmission corridors and ROWs. All of this corridor would be located within the foothills and not adjacent to existing transmission ROW.

Feasibility

This alternative is potentially technically infeasible due to the ruggedness and steepness of the terrain. The nature of the terrain would result in access challenges for crews and equipment during construction, operation, and maintenance.

Environmental Considerations

Advantages

Land Use. This alternative would avoid potential land use conflicts by avoiding approved solar development north of the O'Neill Forebay.

Visual Resources. This alternative would be located behind a ridge line and farther from the Cemetery in comparison to the Proposed Project, and would therefore reduce potential visual impacts to Cemetery visitors.

Disadvantages.

Water Quality and Soil Erosion. This alternative would require new access roads on steep terrain potentially resulting in increased soil erosion and water quality impacts in comparison to the Proposed Project.

Determination

Eliminated from Analysis. This alternative could meet the Purpose and Need and most Project Objectives. It would reduce potential land use conflicts and visual impacts. However, due to the ruggedness of the terrain this alternative would potentially cause soil erosion and water quality impacts, and may be technically infeasible. Therefore, it will not be fully analyzed in the EIS/EIR.

Forebay 500-kV Corridor

Alternative Description

Western developed this alternative corridor to shorten the length of the Project and maximize use of existing transmission corridors. This alternative would provide another option to the West of O'Neill Forebay Alternative. As shown in Figure 3, this alternative would deviate from the West of O'Neill Forebay Alternative where that alternative turns southwest towards the San Luis Substation. This alternative would continue southeast following two existing PG&E 500-kV transmission lines across the southeastern portion of the O'Neill Forebay to the Los Banos Substation. A 0.7 mile segment of this alternative would cross the O'Neill Forebay in the existing transmission corridor.

Consideration of NEPA/CEQA Criteria

Purpose and Need, Project Objectives

This alternative could meet the Purpose and Need and most Project Objectives, particularly as they relate to use of existing transmission line corridors. All of this corridor would follow an existing transmission corridor.

Feasibility

This alternative is potentially feasible.

Environmental Considerations

Advantages

This alternative would potentially have no environmental advantages in comparison to the Proposed Project.

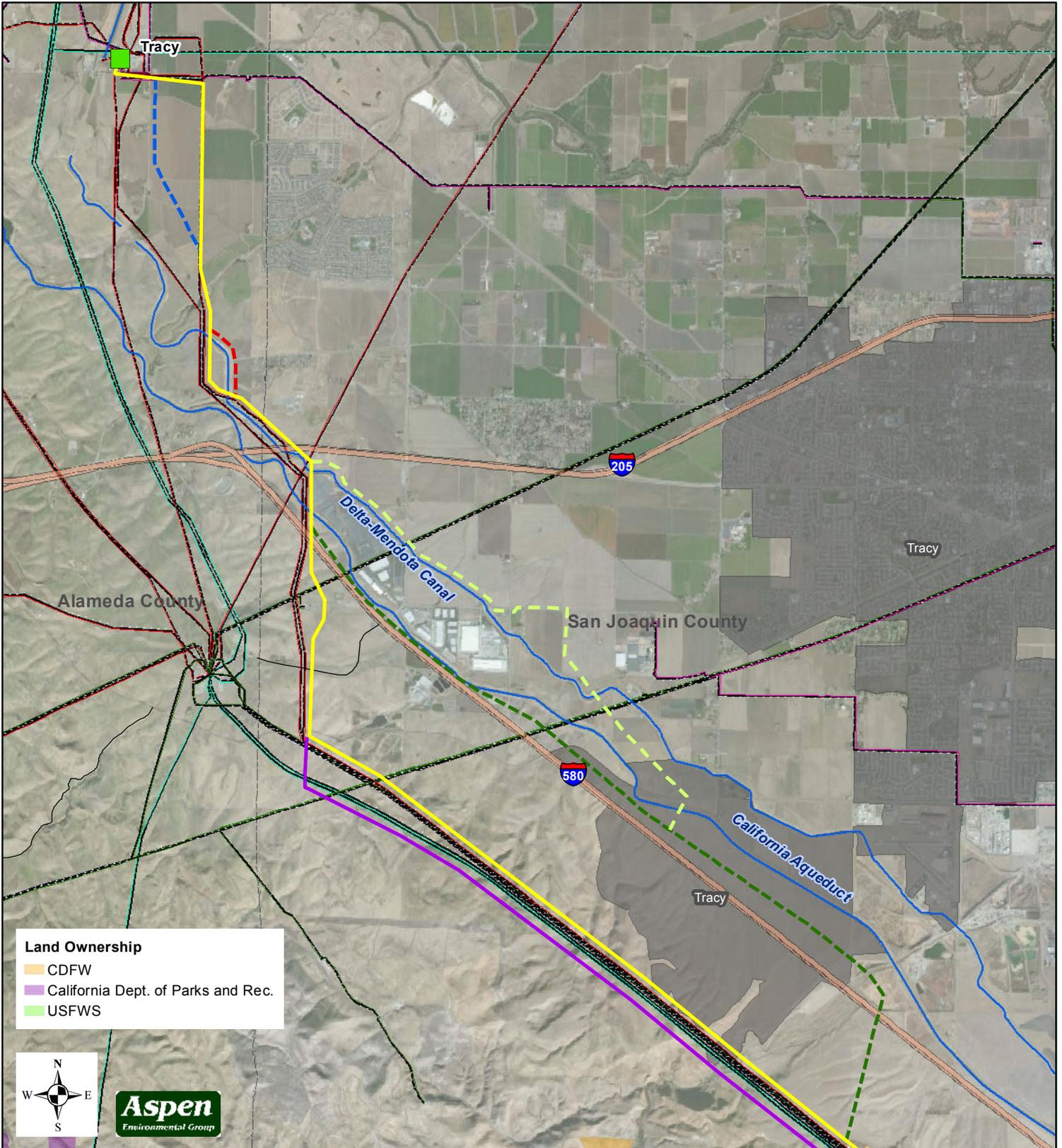
Disadvantages

Recreation. This alternative would cross the O’Neill Forebay in a popular recreational area and may temporarily interfere with recreational activities in this portion of the Forebay.

Water Quality and Soil Erosion. Expansion of the islands would result in potential water quality and soil erosion impacts in the Forebay.

Determination

Eliminated from Analysis. This alternative could meet the Purpose and Need and Project Objectives. It would maximize the use of existing transmission line corridors and ROW. However, construction in the Forebay would result in potential water quality, soil erosion, and recreation impacts. This alternative would have no environmental advantages in comparison to the Proposed Project. Therefore, this alternative will not be fully analyzed in the EIS/EIR.



Land Ownership

- CDFW
- California Dept. of Parks and Rec.
- USFWS



- Substation
- Proposed Project
- City Boundary
- County Boundary

- Existing Transmission Lines**
- 69 kV
 - 115 kV
 - 230 kV
 - 500 kV

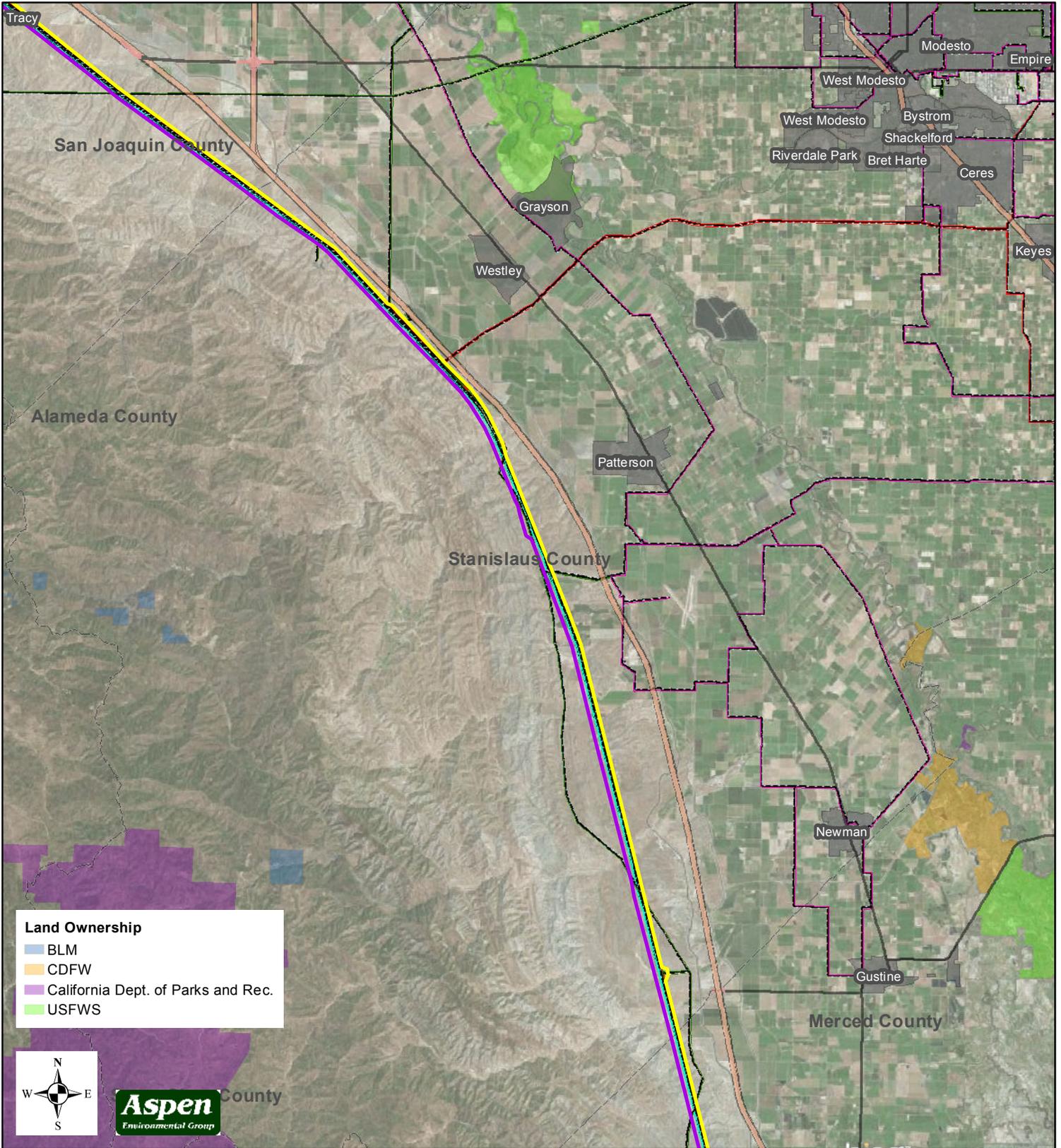
- Alternative Corridors Retained**
- Patterson Pass to Horseshoe Road 500-kV

- Alternative Corridors Eliminated**
- Mountain House Road 500-kV
 - Grant Line Road 500-kV
 - East Of Delta-Mendota Canal 500-kV
 - Delta-Mendota Canal/Interstate 580 500-kV



Alternatives Screening Report

Figure 1



Land Ownership

- BLM
- CDFW
- California Dept. of Parks and Rec.
- USFWS



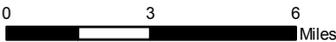
- Substation
- Proposed Project
- City Boundary
- County Boundary

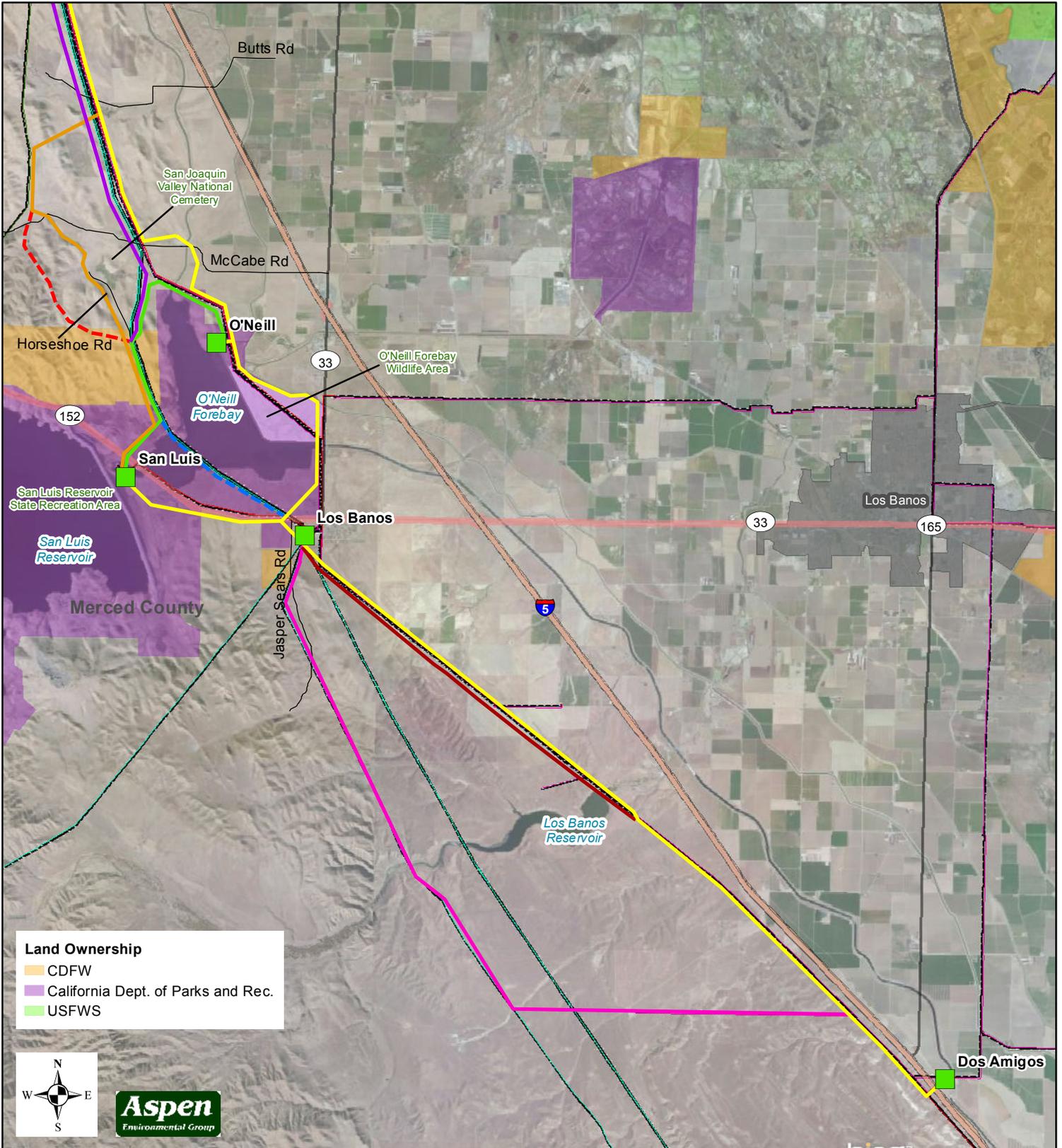
- Existing Transmission Lines**
- 69 kV
 - 230 kV
 - 115 kV
 - 500 kV

Alternative Corridors Retained
— Patterson Pass to Horseshoe Road 500-kV

Alternatives Screening Report

Figure 2





Land Ownership

- CDFW
- California Dept. of Parks and Rec.
- USFWS



- Substation
- Proposed Project
- City Boundary
- County Boundary

- Existing Transmission Lines**
- 69 kV
 - 230 kV
 - 115 kV
 - 500 kV

- Alternative Corridors Retained**
- Patterson Pass to Horseshoe Road 500-kV
 - Los Banos to Dos Amigos 230-kV
 - West of Cemetery 500-kV
 - West of O'Neill Forebay 70-kV
 - Jasper Sears Road 230-kV
- Alternative Corridors Eliminated**
- Forebay 500-kV
 - West Of Cemetery 2 500-kV

Alternatives Screening Report

Figure 3

