YOLO COUNTY
COMMUNITY SERVICES DEPARTMENT

ENCROACHMENT PERMIT
PW # 2016-0014

CALIFORNIA AREA INDIAN HEALTH SERVICES
YOUTH REGIONAL TREATMENT CENTER
SACRED OAKS HEALING CENTER DRIVEWAY

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

May 2018

Initial Environmental Study

1. **Project Title:** Public Works #2016-0014 (Youth Regional Treatment Center Driveway)

2. **Lead Agency Name and Address:**
   Yolo County Community Services Dept.
   292 W. Beamer Street
   Woodland, CA 95695

3. **Contact Person, Phone Number, E-Mail:**
   Charlie Tschudin, Assistant Planner
   (530) 666-8850
   charlie.tschudin@yolocounty.org

4. **Project Location:** The project is located at the intersection of County Road 93A and County Road 31, in the unincorporated area of Yolo County, west of the City of Davis (APN 038-110-016). See Figure 1 (Vicinity Map).

5. **Project Sponsor's Name and Address:**
   Morton & Pitalo
   75 Iron Point Circle, Suite 120
   Folsom, CA 95630

6. **Land Owner's Name and Address:**
   U. S. Department of Health and Human Services
   200 Independence Avenue, S.W.
   Washington, D.C. 20201

7. **General Plan Designation(s):** Agriculture (AG)

8. **Zoning:** Agricultural Intensive (A-N)

9. **Description of the Project:** See attached "Project Description" on the following pages

10. **Surrounding Land Uses and Setting:**
    North: Public/Quasi-Public (PQP)
    South: Agricultural Intensive (A-N)
    East: Public/Quasi-Public (PQP)
    West: Agricultural Intensive (A-N)

11. **Other Project Assumptions:** The Initial Study assumes compliance with all applicable State, Federal, and local codes and regulations including, but not limited to, County of Yolo Improvement Standards, the California Building Code, the State Health and Safety Code, and the State Public Resources Code

Project Description

The United States Department of Health and Human Services, Indian Health Service (IHS) is in the process of constructing a Youth Regional Treatment Center in Yolo County. The facility, named Sacred Oaks Healing Center, would provide specialized health care services to American Indian/Alaska Native youth that are not currently available.

The 1987 Indian Health Care Improvement Act, which was amended in 1992 by Public law 102-573, states in Section 704 that the IHS Area Office in California shall construct operate one youth regional treatment facility in the north of the state, and another to the serve the remainder of the state.

The Youth Regional Treatment Center will consist of developing a 40,235.5 SF facility on a 12-acre parcel, currently used as irrigated agricultural land. The proposed Youth Regional Treatment Center will treat up to 96 American Indian/Alaska Native youth per year on a resident basis, and create 70 new staff positions.

The site for the facility is located between the cities of Davis and Winters, California, on the north side of County Road 31, APN 038-110-016, in the unincorporated part of Yolo County. The parcel is property of the Federal Government, and IHS prepared an Environmental Assessment under the National Environmental Protection Act (NEPA) to analyze the project's environmental impacts of the different project alternatives, including a No Action alternative, where a Youth Regional Treatment Center would not be constructed. *See* Attachment A (NYCRTC Environmental Assessment). The Environmental Assessment concluded that construction and operation of the Youth Regional Treatment Center would not result in significant environmental impacts related to geologic or seismic conditions, cultural and historic resources, the floodplain, air quality, soils, water quality, and threatened, endangered, and state special status species, among other things. IHS thus issued a Finding of No Significant Impact. *See* Attachment B (Finding of No Significant Impact). However, a later traffic study commissioned by IHS found that the facility would result in traffic hazards on County Road 31 from cars slowing down to turn into the facility. The traffic study recommended construction of a left-turn lane and right-turn pocket, among other things.

Morton & Pitalo, as contractor for IHS, and Greenberg Construction, as design-build contractor, have applied for an encroachment permit for access to the Youth Regional Treatment Center from County Road 31 (Project). This Initial Study/Mitigated Negative Declaration (IS/MND) was prepared in accordance with the California Environmental Quality Act (CEQA), and analyzes both (1) the potential environmental impacts associated with the construction of a stabilized construction site entrance from County Road 31 to the Youth Regional Treatment Center site and (2) a permanent driveway connection during operation of the facility.

The stabilized construction site access will be constructed of three (3) to six (6) inch washed, well graded gravel or crushed rock, and be placed to a minimum thickness of six (6) inches, the entrance shall be a minimum of length of fifty (50) feet and maintain of minimum width of fifteen (15) feet, or greater if necessary, to cover all vehicular ingress and egress, while providing ample turning radii. The access will be inspected weekly during periods of heavy usage, monthly turning periods of normal usage, and after each rainfall, with maintenance provided as necessary.

The scope of this IS/MND is limited by the County's legal authority over the project. The Youth Regional Treatment Center itself is a federal project being undertaken on federal land. The County therefore has limited jurisdiction to regulate elements of the facility itself. However, the County does have jurisdiction to issue permits for encroachments onto the County road, which is not on federal land. When issuing the encroachment permit, the County can place conditions that "provide that the permittee will pay the entire expense of replacing the highway in as good condition as before." Cal. Streets & Highway Code § 1462. Such conditions of approval are not limited to the physical condition of the road, but also its functional ability "to carry the pre-existing traffic load as safely as before." *La Canada Flintridge Dev. Corp. v. Dep't of Transportation*, 166 Cal. App. 3d 206, 215 (1985). Accordingly, this CEQA document will only focus on those environmental impacts associated with the encroachment on the County road, and not environmental impacts from elements over which the County has no legal authority to mitigate environmental impacts. *See San Diego Navy Broadway Complex Coal. v. City of San Diego*, 185 Cal. App. 4th 924, 934 (2010) ("[T]to trigger CEQA compliance, the discretion must be of a certain kind; it must provide the agency with the ability and authority to mitigate environmental damage to some degree.") (internal quotations omitted); *Friends of Westwood, Inc. v. City of Los Angeles*, 191 Cal. App. 3d 259, 267 (1987) ("Thus the touchstone is whether the approval process involved allows the government to shape the project in any way which could respond to any of the concerns which might be identified in an environmental impact report.").

FIGURE 1

Vicinity Map of
Youth Regional Treatment Center

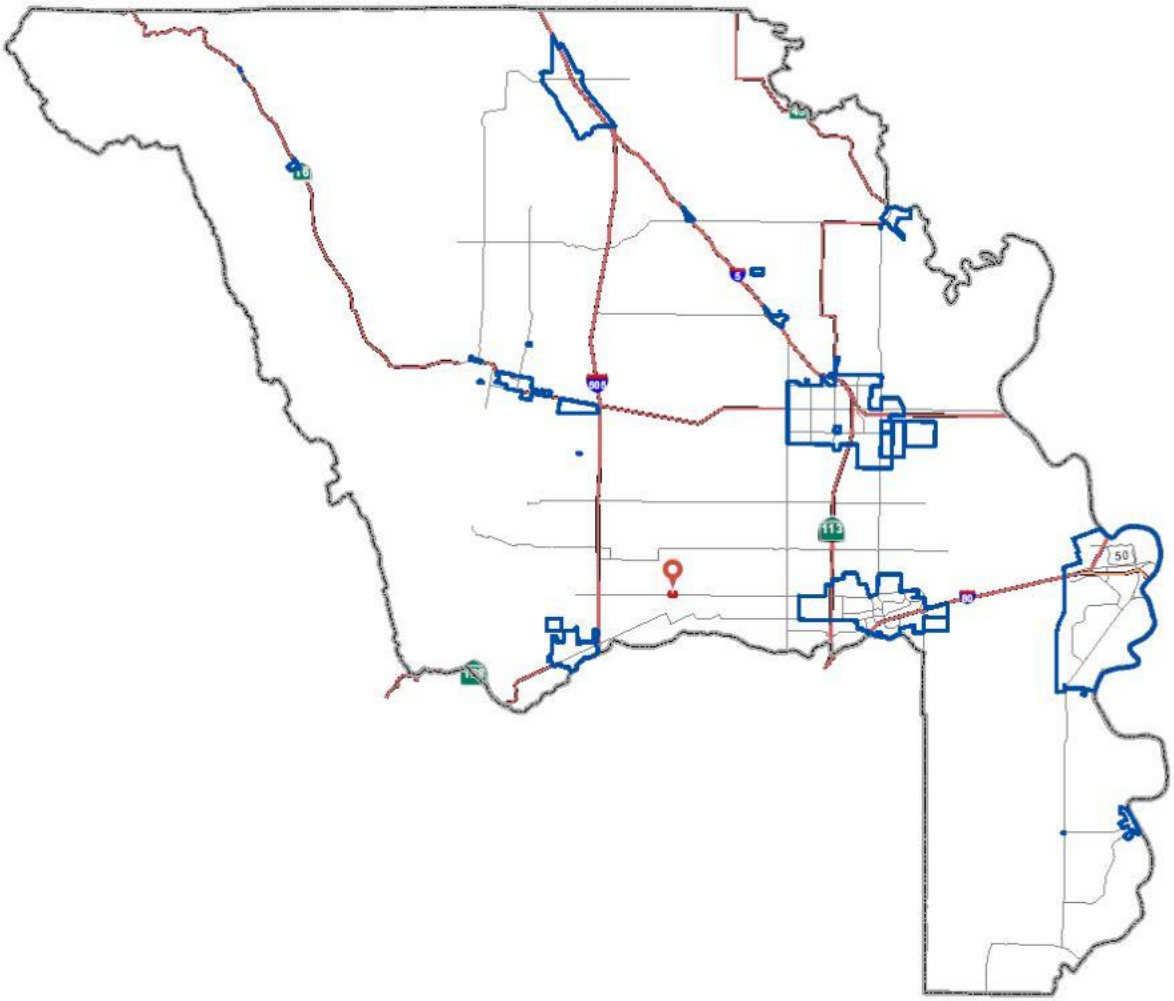


FIGURE 2

SITE PLAN FOR Youth Regional Treatment Center

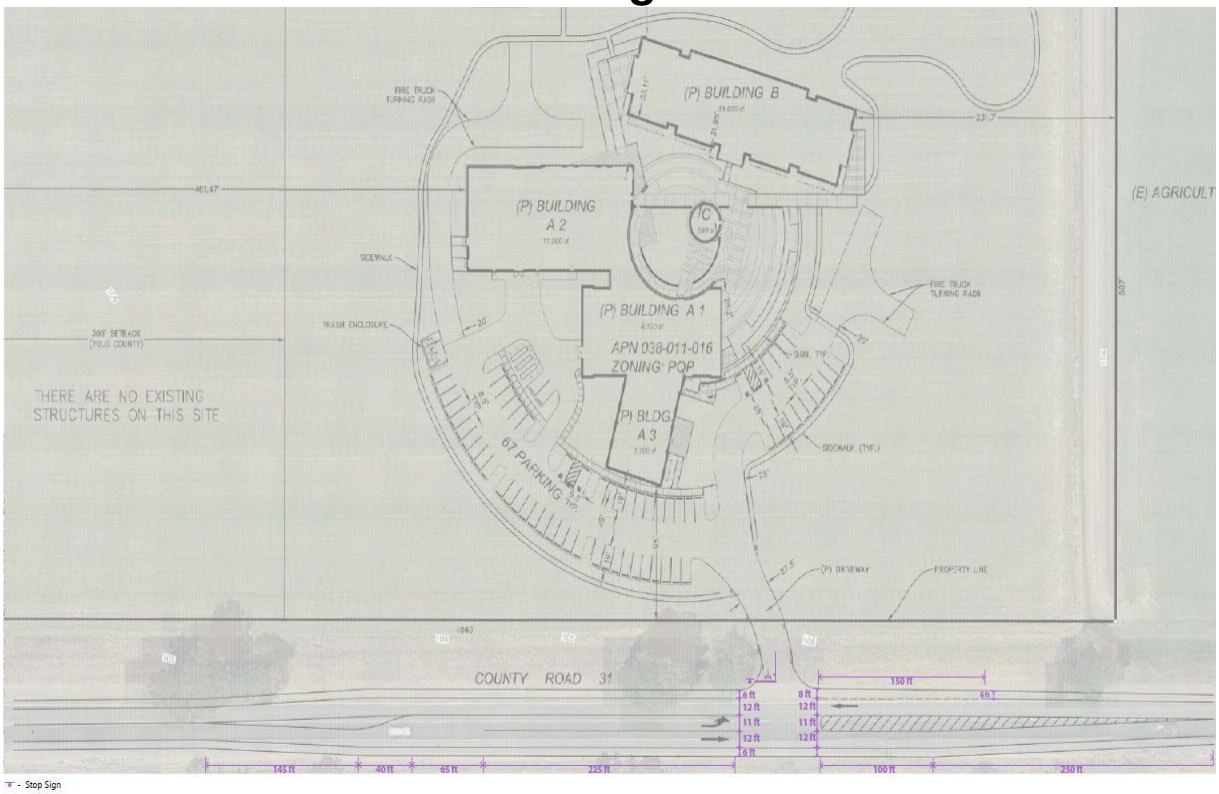
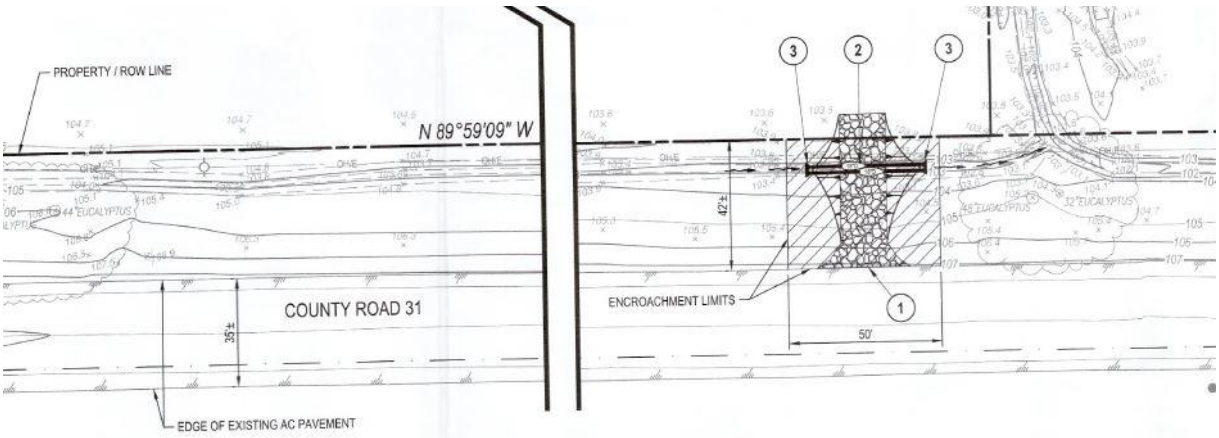


FIGURE 3

Encroachment Permit Exhibit

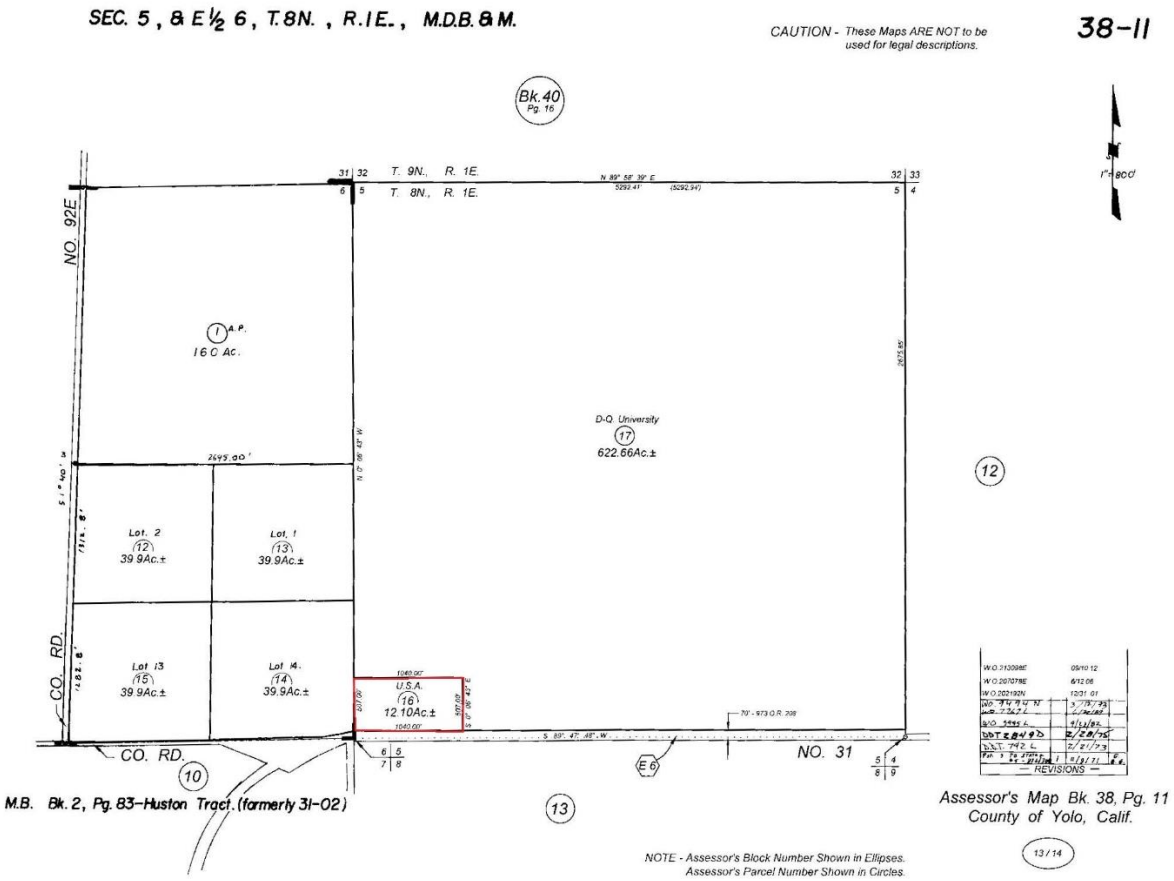


CONSTRUCTION KEYNOTES

1. CONSTRUCT STABILIZED CONSTRUCTION SITE ACCESS PER YOLO COUNTY STD DWG 11-1 THIS SHEET
2. PLACE 2 - 35 LF x 18" RCP CL IV @ S=0.0004
3. INSTALL CONCRETE FLARED END SECTION (FES) PER CALTRANS DETAIL D94B THIS SHEET

FIGURE 4

PARCEL PAGE



Environmental Factors Potentially Affected

The environmental factors checked below could potentially be affected by this project, involving at least two impacts that are a "Potentially Significant Impact" (before any proposed mitigation measures have been adopted or before any measures have been made or agreed to by the project proponent) as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agricultural and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology / Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology / Water Quality
☐ Land Use / Planning	☐ Mineral Resources	☐ Noise
☐ Population / Housing	☐ Public Services	☐ Recreation
☒ Transportation / Traffic	☐ Utilities / Service Systems	☐ Mandatory Findings of Significance

Determination

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have an impact on the environment that is "potentially significant" or "potentially significant unless mitigated" but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis, as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because the project is consistent with an adopted general plan and all potentially significant effects have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT, the project is exempt from further review under the California Environmental Quality Act under the requirements of Public Resources Code section 21083.3(b) and CEQA Guidelines Section 15183.

_____	Charles Tschudin	_____
Planner's Signature	Planner's Printed Name	Date

Purpose of this Initial Study

This Initial Study has been prepared consistent with CEQA Guideline Section 15063, to determine if the project as described herein may have a significant effect upon the environment.

Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained if it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. A "Less than Significant with Mitigation Incorporated" applies when the incorporation of mitigation measures has reduced an effect from a "Potentially Significant Impact" to a "Less than Significant Impact". The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level. (Mitigation measures from Section XVIII, "Earlier Analyses", may be cross-referenced.)
5. A determination that a "Less than Significant Impact" would occur is appropriate when the project could create some identifiable impact, but the impact would be less than the threshold set by a performance standard or adopted policy. The initial study should describe the impact and state why it is found to be "less than significant."
6. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [Section 15063(c)(3)(D) of the California Government Code. Earlier analyses are discussed in Section XVIII at the end of the checklist.
7. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, when appropriate, include a reference to the page or pages where the statement is substantiated.
8. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

I.	AESTHETICS.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a.	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	☐	☐	☐	☒
c.	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d.	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	☐	☒

DISCUSSION

a) Have a substantial adverse effect on a scenic vista?;
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?; *and*
c) Substantially degrade the existing visual character or quality of the site and its surroundings?

No Impact. For purposes of determining significance under CEQA, a "scenic vista" is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. There are no officially designated scenic vistas near the project area, and the project would not substantially degrade the existing visual character of the surrounding vicinity, which includes farmland and rural residences. There are no significant trees, rocks, historic structures or scenic highways in the vicinity. The Project consists of constructing an entrance and exit between the Youth Regional Treatment Center (Sacred Oaks Youth Treatment Facility) and County Road 31. Given such limited scope, the Project would not have the potential to degrade the existing visual character or quality of the site and its surroundings.

d) Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

No Impact. The project consists of constructing an entrance and exit between the Youth Regional Treatment Center (Sacred Oaks Youth Treatment Facility) and County Road 31. The activities associated with construction would occur during the daytime hours. Further, the permanent driveway will not result in any permanent lighting fixtures. The Project thus will not create any light or glare that would adversely affect views in the area.

II.	AGRICULTURE AND FOREST RESOURCES.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and the forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board. Would the project:				
a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b.	Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	☐	☐	☐	☒
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined in Public Resources Code section 4526)?	☐	☐	☐	☒
d.	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e.	Involve other changes in the existing environment that, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

DISCUSSION

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

b) Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined in Public Resources Code section 4526)?; *and*

d) Result in the loss of forest land or conversion of forest land to non-forest use?

e) Involve other changes in the existing environment that, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use?

No impact. The project consists of constructing an entrance and exit between the Youth Regional Treatment Center (Sacred Oaks Youth Treatment Facility) and County Road 31. The Project itself would not cause the loss of agricultural or forest land, or be cause for a rezone to a non-agricultural zone.

III.	AIR QUALITY.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Where applicable, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:					
a.	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b.	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e.	Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

DISCUSSION

Thresholds of Significance:

The project site is within the Yolo-Solano Air Quality Management District (YSAQMD), and the Sacramento Valley Air Basin regulates air quality conditions within Yolo County. Yolo County is classified as a non-attainment area for several air pollutants, including ozone (O_3) and particulate matter 10 microns or less in diameter (PM_{10}) for both federal and state standards, the partial non-attainment of the federal particulate matter 2.5 ($PM_{2.5}$), and is classified as a moderate maintenance area for carbon monoxide (CO) by the state.

Development projects are most likely to violate an air quality plan or standard, or contribute substantially to an existing or project air quality violation, through generation of vehicle trips.

For the evaluation of project-related air quality impacts, the YSAQMD recommends the use of the following thresholds of significance:

- Long-term Emissions of Criteria Air Pollutants (ROG, NO_X, and PM_{10})—The criteria air pollutants of primary concern include ozone-precursor pollutants (ROG and NO_X) and PM_{10}. Significance thresholds have been developed for project-generated emissions of reactive organic gases (ROG), nitrogen oxides (NO_X), and particulate matter of 10 microns or less (PM_{10}). Because $PM_{2.5}$ is a subset of PM_{10}, a separate significance threshold has not be established for $PM_{2.5}$. Operational impacts associated with the proposed project would be considered significant if project-generated emissions would exceed YSAQMD-recommended significance thresholds, as identified below:

Table 1 YSAQMD-Recommended Quantitative Thresholds of Significance for Criteria Air Pollutants	
Pollutant	**Threshold**
Reactive Organic Gases (ROG)	10 tons/year (approx. 55 lbs/day)
Oxides of Nitrogen (NO_X)	10 tons/year (approx. 55 lbs/day)
Particulate Matter (PM_{10})	80 lbs/day
Carbon Monoxide (CO)	Violation of State ambient air quality standard
Source: Handbook for Assessing and Mitigating Air Quality Impacts (YSAQMD, 2007)	

- Emissions of Criteria Air Pollutants (ROG, NO_X, and PM_{10})—Construction impacts associated with a proposed project would be considered significant if project-generated emissions would exceed YSAQMD-recommended significance thresholds, as identified in Table 1, and recommended control measures are not incorporated.

- Conflict with or Obstruct Implementation of Applicable Air Quality Plan— Projects resulting in the development of a new land use or a change in planned land use designation may result in a significant increase in vehicle miles traveled (VMT). Substantial increases in VMT, as well as, the installation of new area sources of emissions, may result in significant increases of criteria air pollutants that may conflict with the emissions inventories contained in regional air quality control plans. For this reason and given the region's non-attainment status for ozone and PM_{10}, project-generated emissions of ozone precursor pollutants (i.e., ROG and NO_x) or PM_{10} that would exceed the YSAQMD's recommended project-level significance thresholds, would also be considered to potentially conflict with or obstruct implementation of regional air quality attainment plans.

- Local Mobile-Source CO Concentrations—Local mobile source impacts associated with the proposed project would be considered significant if the project contributes to CO concentrations at receptor locations in excess of the California Ambient Air Quality Standards set by the California Air Resources Board (i.e., 9.0 ppm for 8 hours or 20 ppm for 1 hour).

- Toxic Air Contaminants. Exposure to toxic air contaminants (TAC) would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 10 in 1 million or would result in a Hazard Index greater than 1.

- Odors. Odor impacts associated with the proposed project would be considered significant if the project has the potential to frequently expose members of the public to objectionable odors.

a) Conflict with or obstruct implementation of the applicable air quality plan?

***Less than Significant Impact*.** The project consists of constructing an entrance and exit between the Youth Regional Treatment Center (Sacred Oaks Youth Treatment Facility) and County Road 31. Construction of a new site entrance and exit would not substantially conflict with or obstruct implementation of the Yolo Solano Air Quality Management District Air Quality Attainment Plan (1992), the Sacramento Area Regional Ozone Attainment Plan (1994), or the goals and objective of the Yolo County 2030 Countywide General Plan. The contribution of toxic air contaminants (TACs) to air quality would occur on temporary a basis during construction and routine maintenance.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less than Significant Impact. The project consists of constructing an entrance and exit between the Youth Regional Treatment Center (Sacred Oaks Youth Treatment Facility) and County Road 31, and contributions to the regional non-attainment of the area associated with construction and routine maintenance would be temporary and not substantial. The Yolo-Solano Region is a non-attainment area for state particulate matter (PM_{10}) and ozone standards, the federal ozone standard, and the partial non-attainment of the federal particulate matter 2.5 ($PM_{2.5}$). In order to evaluate proposed projects, the YSAQMD has established the following thresholds of significance: (1) projects that contribute to carbon monoxide (CO) concentrations exceeding the State ambient air quality standards of 9 parts per million (ppm) averaged over 8 hours and 20 ppm for 1 hour; or (2) projects that generate criteria air pollutant emissions of ROG or NOx in excess of 10 tons per year; or (3) exceed contributions of PM_{10} in excess of 80 pounds per day.

Generation of particulate matter (PM_{10}) is primarily caused by construction activities. As implemented by Yolo County for all discretionary approvals, standard conditions of approval would require that the project incorporate standard best management practices to reduce vehicle emissions and for dust control, as recommended by the YSAQMD and as included in Policy CO-6.6 of the 2030 Countywide General Plan.

As required by standard conditions of approval for all discretionary approvals, to reduce tailpipe emissions from vehicles and diesel-powered construction equipment, all applicable and feasible measures would be implemented, such as:

- Maximizing the use of diesel construction equipment that meet CARB's 2010 or newer certification standard for off-road heavy-duty diesel engines;
- Using emission control devices at least as effective as the original factory-installed equipment;
- Substituting gasoline-powered for diesel-powered equipment when feasible;
- Ensuring that all construction equipment is properly tuned and maintained prior to and for the duration of onsite operation; and
- Using Tier 4 engines in all construction equipment, if available; if Tier 4 engines are not available, then Tier 3 engines shall be used.

As required by standard conditions of approval for all discretionary approvals, to reduce construction fugitive dust emissions, the following dust control measures would be implemented:

- Water all active construction sites at least twice daily in dry conditions, with the frequency of watering based on the type of operation, soil, and wind exposure;
- Effectively stabilize dust emissions by using water or other approved substances on all disturbed areas, including storage piles, which are not being actively utilized for construction purposes;
- Prohibit all grading activities during periods of high wind (over 20 miles per hour);
- Limit onsite vehicle speeds on unpaved roads to 15 miles per hour;
- Cover all trucks hauling dirt, sand, or loose materials;
- Cover inactive storage piles;
- Post a publicly visible sign with the telephone number and person to contact regarding dust complaints; and
- Limit the area under construction at any one time

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

No Impact. Development projects are considered cumulatively significant by the YSAQMD if: (1) the project requires a change in the existing land use designation (i.e., general plan amendment, rezone); and (2) projected emissions (ROG, NOx, or PM_{10} and $PM_{2.5}$) of the project are greater than the emissions anticipated for the site if developed under the existing land use designation.

The project consists of constructing an entrance and exit between the Youth Regional Treatment Center (Sacred Oaks Youth Treatment Facility) and County Road 31. The property that does not require a change in land use designation and rezoning. Short-term air quality impacts would be generated by truck trips during construction activities.

Long-term mobile source emissions from the project would not exceed thresholds established by the Yolo-Solano Air Quality Management District Handbook (2007) and would not be cumulatively considerable for any non-attainment pollutant from the project.

d) Expose sensitive receptors to substantial pollutant concentrations?

No Impact. In 1998, the California Air Resources Board (CARB) designated diesel particulate matter, an element of diesel equipment exhaust, as a toxic air contaminant (TAC). TACs from exhaust emissions would be generated from two sources associated with the proposed project: (1) construction equipment used in the construction of the proposed entrance and exit to the treatment facility; and (2) trucks/vehicles performing routine maintenance after completion of construction. Health risks from TACs are a function of both concentration and duration of exposure.

YSAQMD does not have a threshold of significance for TACs from mobile sources, since YSAQMD has no permitting or other regulatory authority over mobile sources. Construction equipment and diesel truck emission standards are regulated by the U.S. EPA and CARB. In 2000, CARB developed a Diesel Risk Reduction Plan to reduce particulate matter emissions from diesel-fueled engines and vehicles. As a result, the risk from diesel particulate matter (DPM) will decrease over time as cleaner technology phases in.

The driving force behind the health risks from DPM is cancer risk, and cancer risks are related to long-term exposure. State regulations are expected to substantially reduce the health risks associated with living close to operating diesel fueled equipment.

The CARB has established recommendations for siting new sensitive land uses to address the potential exposure of sensitive populations to toxic air contaminants (TACs). These recommendations are implemented through Action CO-106 of the General Plan, which states:

> Regulate the location and operation of land uses to avoid or mitigate harmful or nuisance levels of air emissions to the following sensitive receptors: residential uses, hospitals and nursing/convalescent homes, hotels and lodging, schools and day care centers and neighborhood parks. New development shall follow the recommendations for siting new sensitive land uses consistent with the CARB's recommendation as shown in Table IV.D-8

e) Create objectionable odors affecting a substantial number of people?

Less Than Significant Impact. The proposed construction of an entrance and exit between the Youth Regional Treatment Center (Sacred Oaks Youth Treatment Facility) and County Road 31 is not anticipated to create objectionable odors affecting a substantial number of people. The proposed project would be constructed using diesel-powered heavy equipment. Diesel exhaust may generate odors while

the project construction is under way and during the regular use of the entrance/exit, but will not affect a substantial number of people.

The proposed project is located at least 2,500 feet from the nearest sensitive land use (DQ University). The distance of the setback, as well as the rural nature of the proposed project site, would allow odors to quickly disperse.

IV.	BIOLOGICAL RESOURCES.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c.	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f.	Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

DISCUSSION

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No Impact. The project consists of constructing an entrance and exit between the Youth Regional Treatment Center (Sacred Oaks Youth Treatment Facility) and County Road 31. According to the Environmental Assessment performed by IHS, no sensitive or special status species have been identified in the vicinity of the entrance/exit site along County Road 31. The construction activities will not interfere with any such species, and will not result in any permanent improvements that will affect breeding or foraging habitat.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. There is no riparian habitat or wetlands on the property.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact. The project will not interfere substantially with the movement of any native resident or wildlife species. There are no known migratory wildlife corridors, or native wildlife nursery sites within the site.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The project consists of constructing an entrance and exit between the Youth Regional Treatment Center (Sacred Oaks Youth Treatment Facility) and County Road 31 and would not conflict with any other local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. The County does not have any other conservation ordinances, except for a voluntary oak tree preservation ordinance that seeks to minimize damage and require replacement when oak groves are affected by development.

f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The Yolo Habitat Conservancy program (formerly the Yolo Natural Heritage Program), is a Joint Powers Agency composed of the County, the cities, and other entities. It is in the process of completing a Habitat Conservation Plan (HCP) for Yolo County. The HCP will focus on protecting habitat of terrestrial (land, non-fish) species. In the interim, the program has implemented a mitigation program acceptable to the Department of Fish and Wildlife for a main species of concern, the Swainson's hawk. The agreement requires that local agencies review all discretionary applications for potential impacts to the hawk or hawk habitat, and either pay a per-acre in-lieu fee or purchase a conservation easement (or mitigation credits) to mitigate for loss of habitat. As noted above, the project will not be required to mitigate for the loss of foraging habitat.

V.	CULTURAL RESOURCES.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a.	Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☐	☒
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☐	☒
c.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d.	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? *and*

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. The project site is within the aboriginal territories of the Yocha Dehe Wintun Nation, however the site is not known to have any significant historical, archaeological, or paleontological resources as defined by the criteria with the CEQA Guidelines. Given the limited size of the connection between the road and driveway, which is on highly disturbed land, the project will not affect any historic, cultural, or paleontological resources known or suspected to occur on the project site.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant Impact. No human remains are known or predicted to exist in the project area. However, the potential exists during any future construction to uncover previously unidentified resources. Section 7050.5 of the California Health and Safety Code states that when human remains are discovered, no further site disturbance shall occur until the County coroner has determined that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendation concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, in the manner provided in Section 5097.98 of the Public Resources Code. If the coroner determines that the remains are not subject to his or her authority and the remains are recognized to be those of a Native American, the coroner shall contact the Native American Heritage Commission within 24 hours.

VI.	GEOLOGY AND SOILS.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a.	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
	1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				
	2. Strong seismic groundshaking?				
	3. Seismic-related ground failure, including liquefaction?				
	4. Landslides?				
b.	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c.	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	☒

VI.	GEOLOGY AND SOILS.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d.	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

DISCUSSION

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture or a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42).

No Impact. The project is not located within an Alquist-Priolo Earthquake Special Study Zone. No landforms are known to be on the project site that would indicate the presence of active faults. Although several earthquake fault zones are present within the County, none are present within proximity of the project site. Surface ground rupture along faults is generally limited to a linear zone a few yards wide. Because the project site is not located within an Alquist-Priolo Earthquake Special Study Zone, ground rupture that would expose people or structures at the site to substantial adverse effects is unlikely to result in any significant impacts.

ii) Strong seismic ground shaking?

No Impact. Ground shaking occurs as a result of energy released during faulting, which could potentially result in the damage or collapse of buildings and other structures, depending on the magnitude of the earthquake, the location of the epicenter, and the character and duration of the ground motion. There is a mapped potentially active fault near the site (the Dunnigan Hills Fault). This fault has been active in the last 10,000 years but has not been active in historic times. The only known active fault in the county (the Hunting Creek Fault) is located in the far northwestern portion of the county (Yolo County, 2009). Because known active seismic sources are located fairly distant from the project site, strong seismic ground shaking would not be anticipated at the project site and is unlikely to result in any impact.

iii) Seismic-related ground failure, including liquefaction?

No Impact. Soil liquefaction occurs when ground shaking from an earthquake causes a sediment layer saturated with groundwater to lose strength and take on the characteristics of a fluid. Factors determining the liquefaction potential are the level and duration of seismic ground motions, the type and consistency of soils, and the depth to groundwater. Liquefaction poses a hazard to engineered structures, as the loss of soil strength can result in bearing capacity insufficient to support foundation loads.

The potential for seismic ground shaking on the site is low, and there is a low potential for seismic-related ground failure at the site.

iv) Landslides?

No Impact. A landslide involves the downslope transport of soil, rock, and sometimes vegetative material *en masse*, primarily under the influence of gravity. Landslides occur when shear stress (primarily weight) exceeds shear strength of the soil/rock. The shear strength of the soil/rock may be reduced during high rainfall periods when materials become saturated. Landslides also may be induced by ground shaking from earthquakes.

The project site is flat and has a low landslide susceptibility due to the slope class and material strength. Mass movements are unlikely to occur at the site, particularly large landslides with enough force and material to expose people or structures on the project site to potentially substantial adverse effects, including the risk of loss, injury, or death.

b) Result in substantial soil erosion or the loss of topsoil?

No Impact. The land surface at the project site is flat. The project is located in an area with little potential for erosion; substantial soil erosion or loss of topsoil is unlikely to occur. The project consists of constructing an entrance and exit between the Youth Regional Treatment Center (Sacred Oaks Youth Treatment Facility) and County Road 31, six inches of crushed rock material will be placed to stabilize the site access and exit.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

No Impact. The project is not located in an area of unstable geologic materials, and the project is not expected to significantly affect the stability of the underlying materials, which could potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. The proposed encroachment would not subject people to landslides or liquefaction or other cyclic strength degradation during a seismic event.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?

Less than Significant Impact. The site is located in an area of "normal" expansive soils. All construction to implement the project will be required to be built in accordance with County Standards.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The project consists of constructing an entrance and exit between the Youth Regional Treatment Center (Sacred Oaks Youth Treatment Facility) and County Road 31, no waste disposal systems will be constructed as a part of the project.

VII.	GREENHOUSE GAS EMISSIONS/CLIMATE CHANGE.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a.	Generate greenhouse gas emissions either directly or indirectly, that may have a significant impact on the environment.	☐	☐	☐	☒

VII.	GREENHOUSE GAS EMISSIONS/CLIMATE CHANGE.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b.	Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.	☐	☐	☐	☒
c.	Be affected by climate change impacts, e.g., sea level rise, increased wildfire dangers, diminishing snow pack and water supplies, etc.?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

The issue of combating climate change and reducing greenhouse gas emissions (GHG) has been the subject of state legislation (AB 32 and SB 375). The Governor's Office of Planning and Research has adopted changes to the California Environmental Quality Act (CEQA) Guidelines, and the environmental checklist which is used for Initial Studies such as this one. The changes to the checklist, which were approved in 2010, are incorporated above in the two questions related to a project's GHG impacts. A third question has been added by Yolo County to consider potential impacts related to climate change's effect on individual projects, such as sea level rise and increased wildfire dangers.

Yolo County has adopted General Plan policies and a Climate Action Plan (CAP) which addresses these issues. In order to demonstrate project-level compliance with CEQA relevant to GHG emissions and climate change impacts, applications for discretionary projects must demonstrate consistency with the General Plan and CAP. The adopted 2030 Yolo Countywide General Plan contains the following relevant policies and actions:

Policy CO-8.2: Use the development review process to achieve measurable reductions in greenhouse gas emissions.

Action CO-A117: Pursuant to the adopted Climate Action Plan (CAP), the County shall take all feasible measures to reduce its total carbon dioxide equivalent (CO2e) emissions within the unincorporated area (excluding those of other jurisdictions, e.g., UC-Davis, Yocha Dehe Wintun Nation, DQ University, school districts, special districts, reclamation districts, etc.), from 648,252 metric tons (MT) of CO2e in 2008 to 613,651 MT of CO2e by 2020. In addition, the County shall strive to further reduce total CO2e emissions within the unincorporated area to 447,965 MT by 2030. These reductions shall be achieved through the measures and actions provided for in the adopted CAP, including those measures that address the need to adapt to climate change. (Implements Policy CO-8.1)

Action CO-A118: Pursuant to and based on the CAP, the following thresholds shall be used for determining the significance of GHG emissions and climate change impacts associated with future projects:

> 1) Impacts associated with GHG emissions from projects that are consistent with the General Plan and otherwise exempt from CEQA are determined to be less than significant and further CEQA analysis for this area of impact is not required.
>
> 2) Impacts associated with GHG emissions from projects that are consistent with the General Plan, fall within the assumptions of the General Plan EIR, consistent with the CAP, and not exempt from CEQA are determined to be less than significant or mitigated to a less than significant level, and further CEQA analysis for this area of impact is generally not required.

To be determined consistent with the CAP, a project must demonstrate that it is included in the growth projections upon which the CAP modeling is based, and that it incorporates applicable strategies and measures from the CAP as binding and enforceable components of the project.

3) Impacts associated with GHG emissions from projects that are not consistent with the General Plan, do not fall within the assumptions of the General Plan EIR, and/or are not consistent with the CAP, and are subject to CEQA review are rebuttably presumed to be significant and further CEQA analysis is required. The applicant must demonstrate to the County's satisfaction how the project will achieve its fair share of the established targets including:

- Use of alternative design components and/or operational protocols to achieve the required GHG reductions; and

- Use of real, additional, permanent, verifiable and enforceable offsets to achieve required GHG reductions. To the greatest feasible extent, offsets shall be: locally based, project relevant, and consistent with other long term goals of the County.

The project must also be able to demonstrate that it would not substantially interfere with implementation of CAP strategies, measures, or actions. (Implements Policy CO-8.5)

DISCUSSION

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

No Impact. The project consists of constructing an entrance and exit between the Youth Regional Treatment Center (Sacred Oaks Youth Treatment Facility) and County Road 31 that does not require a change in land use designation and rezoning. As noted above in General Plan Action CO-A118, "impacts associated with GHG emissions from projects that are consistent with the General Plan, fall within the assumptions of the General Plan EIR, are consistent with the CAP, and not exempt from CEQA are determined to be less than significant or mitigated to a less than significant level, and further CEQA analysis for this area of impact is generally not required."

b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact. The proposed project would not conflict with any applicable plan, policy or regulation adopted to reduce GHG emissions, including the numerous policies of the adopted 2030 Yolo Countywide General Plan and Climate Action Plan.

c) Be affected by climate change impacts, e.g., sea level rise, increased wildfire dangers, diminishing snow pack and water supplies, etc.?

No Impact. As discussed below in the Hydrology and Water Quality section, the project site is located in Flood Zone X, outside a flood plain, as designated by the Federal Emergency Management Agency (FEMA). The project would not expect to be directly affected by any climate change impacts such as flooding, wildfires, diminished water supply, or sea level rise.

VIII.	HAZARDS AND HAZARDOUS MATERIALS.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d.	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f.	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h.	Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

DISCUSSION

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?; *and*

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?

Less than Significant Impact. The construction and operation of the stabilized construction site entrance from County Road 31 to Sacred Oaks Youth Treatment Facility will involve hazardous materials, such as oil from machinery.

Any hazards to the public or environment related to the transportation, use, or disposal is less than significant, with minimal risk of release of hazardous materials into the environment.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. The project site is not located within one-quarter mile of an existing school (DQ University), and any emissions related to the construction and future maintenance of the entrance/exit will be temporary.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. The project is not located on a site that has been included on a list of hazardous materials sites.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?; *and*

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The project site is not located within the vicinity of an airstrip. There would be no safety hazard related to public or private airports that would endanger people residing or working in the project area. The project consists of constructing an entrance and exit between the Youth Regional Treatment Center (Sacred Oaks Youth Treatment Facility) and County Road 31, the entrance/exit is located 2.07-miles from the Davis/Winters Airstrip, but would not result in a safety hazard due to its proximity to the airstrip.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. The location of the project would not affect any emergency response plan.

h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact. The project site is not located in a designated Fire Hazard Severity Zone and, therefore, would not be at significant risk from wildland fires.

IX.	**HYDROLOGY AND WATER QUALITY.**	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a.	Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒

IX.	HYDROLOGY AND WATER QUALITY.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on-site or off-site?	☐	☐	☐	☒
d.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site?	☐	☐	☐	☒
e.	Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f.	Otherwise substantially degrade water quality?	☐	☐	☐	☒
g.	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h.	Place within a 100-year flood hazard area structures that would impede or redirect floodflows?	☐	☐	☐	☒
i.	Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j.	Contribute to inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

DISCUSSION

a) Violate any water quality standards or waste discharge requirements?

No Impact. The project consists of constructing an entrance and exit between the Youth Regional Treatment Center (Sacred Oaks Youth Treatment Facility) and County Road 31, the potential for violation of water quality standard would occur through equipment used during the construction and maintenance of the constructed access/exit route.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

No Impact. The project consists of constructing an entrance and exit between the Youth Regional Treatment Center (Sacred Oaks Youth Treatment Facility) and County Road 31. As part of the larger

project, a new water well will be drilled on site, but is not a part of this environmental review, as the issuance of an encroachment permit would not affect the permitting of a well.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation?

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding?

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? *and*

f) Otherwise substantially degrade water quality?

No Impact. The project consists of constructing an entrance and exit between the Youth Regional Treatment Center (Sacred Oaks Youth Treatment Facility) and County Road 31, and would not substantially alter or contribute to excessive erosion, drainage, off-site flooding, or degradation of water quality. All drainage plans will be subject to review and approval by the County Engineer, in accordance with the requirements of the Yolo County *Improvement Standards*. Any alteration to drainage or effects on water quality will be less than significant, resulting from the construction of the entrance/exit.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

No Impact. The project site is located in Flood Zone X, outside a flood plain, as designated by the Federal Emergency Management Agency (FEMA). The project does not involve the construction of any dwelling units and would not pose any danger to housing.

i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact. The project site is not located in a dam inundation zone. The north of the project parcel (APN 038-110-016), is located in Flood Zone A, but the zone does not extend to the site specific project location where the point of ingress/egress occurs.

j) Result in inundation by seiche, tsunami, or mudflow?

No Impact. The project area is not located near a body of water that could potentially pose a seiche or tsunami hazard. The project site is level, and is not located near any physical or geologic features that would produce a mudflow hazard.

X.	LAND USE AND PLANNING.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a.	Physically divide an established community?	☐	☐	☐	☒
b.	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

DISCUSSION

a) Physically divide an established community?

No Impact. The proposed project will establish a connection between County Road 31 and the Sacred Oaks Youth Treatment Facility.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. The proposed construction of an entrance/exit to the Sacred Oaks Youth Treatment Facility would not conflict with any of the regulatory plans in place, with jurisdiction over the project area. The County does not have an adopted Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP), although a draft HCP is now being prepared by the Yolo County Conservancy, a joint powers agency.

XI.	MINERAL RESOURCES.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b.	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

DISCUSSION

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?; *and*

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. The project area is not located within any identified area of significant aggregate deposits, as classified by the State Department of Mines and Geology. Most aggregate resources in Yolo County are located along Cache Creek in the Esparto-Woodland area.

XII.	NOISE.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:					
a.	Exposure of persons to or generation of noise levels in excess of standards established in a local general plan or noise ordinance, or in other applicable local, state, or federal standards?	☐	☐	☐	☒
b.	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c.	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d.	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f.	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

Yolo County has not adopted a noise ordinance which sets specific noise levels for different zoning districts or for different land uses in the unincorporated area. Instead, the County relies on the State of California Department of Health Services' recommended Community Noise Exposure standards, which are set forth in the State's General Plan Guidelines (2003). These standards are included in the Yolo County 2030 Countywide General Plan and used to provide guidance for new development projects. The recommended standards provide acceptable ranges of decibel (dB) levels. The noise levels are in the context of Community Noise Equivalent Level (CNEL) measurements, which reflect an averaged noise level over a 24-hour or annual period. The Countywide General Plan identifies up to 70 dB CNEL for business commercial land uses. General Plan Policy HS-7.4 states that an applicant shall maintain exterior noise levels at 60dB CNEL at the property's boundary lines, to the greatest extent feasible, by applying best-available noise reduction measures.

DISCUSSION

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?;
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?; and
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No Impact. The project parcel is located in the agricultural land in the unincorporated part of the County, and not near any sensitive noise receptors. The main source of groundborne vibrations and noise levels is the County Road 31 automobile traffic. A Transportation Impact Study for Sacred oaks Healing Center March 22, 2017 was prepared to analyze the impacts of Traffic along County Road 31, the proposed project would cause an estimated 1.2-percent increase in average daily traffic (ADT) on County Road 31. The study noted that traffic is fairly constant from 7 AM to 6 PM, so this 1.2-percent increase would have negligible effects on ambient noise levels along County Road 31.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than Significant Impact. The ambient noise levels in the area would temporarily increase along County Road 31 during periods of construction and routine maintenance, but the project site is located along a County Road where the other sources of noises that contribute to the ambient noise levels are automobile traffic and agricultural operations. Noises associated with the project construction and maintenance would be negligible in relation to their contribution to the ambient noise levels in the unincorporated area.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?; *and*
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact*.* The proposed project site is not located within an airport land use plan, or a private airstrip, as noted in Section VIII, the project site is located just over 2-miles from the nearest airport. The project would not expose individuals to excessive noise levels associated with aircraft operations.

XIII.	POPULATION AND HOUSING.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a.	Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b.	Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c.	Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

DISCUSSION

a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?

No Impact. The proposed project, consisting solely of building an entrance and exit to a facility under federal jurisdiction, would not directly induce growth in the area.

b) Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?; *and*
c) Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?

No Impact. The proposed encroachment from County Road 31 to the site of the Sacred Oaks Youth Treatment Facility would not displace existing housing units or people that would necessitate the construction of replacement facilities.

XIV.	PUBLIC SERVICES.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:					
a.	Fire protection?	☐	☐	☒	☐
b.	Police protection?	☐	☐	☒	☐
c.	Schools?	☐	☐	☐	☒
d.	Parks?	☐	☐	☐	☒
e.	Other public facilities?	☐	☐	☐	☒

DISCUSSION

a) Fire protection?
b) Police Protection?

Less than Significant Impact. The construction of the entrance and exit to Sacred Oaks Youth Treatment Facility will not require additional fire and police protection.

c) Schools?
d) Parks?
e) Other public facilities?

No impact. The project provides access from County Road 31 to the proposed Sacred Oaks Youth Treatment Facility will not necessitate the construction of additional facilities.

XV.	RECREATION.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a.	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b.	Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

DISCUSSION

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?; *and*

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

No Impact. The proposed project would not require the construction of additional recreational facilities nor substantially increase the use of existing recreational facilities.

XVI.	TRANSPORTATION/TRAFFIC.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a.	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☒	☐	☐
b.	Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c.	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d.	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐
e.	Result in inadequate emergency access?	☐	☐	☐	☒

XVI.	TRANSPORTATION/TRAFFIC.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f.	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☒	☐	☐

ENVIRONMENTAL SETTING

The project is located on the north side of County Road 31, a highway that extends in an east-west direction between the cities of Davis and Winters. Within the project area, County Road 31 is a two-lane undivided roadway with passing permitted in certain sections, with a Class II bikeway present on both sides of the road. County Road 31 carries approximately 4,900 vehicles per day during summer months.

Policy CI-3.1 of the 2030 Yolo Countywide General Plan Circulation Element sets level of service (LOS) standards that must be maintained for roadways. Level of service is measured on an A to F rating scale, with LOS A indicating free flowing traffic and LOS F indicating extremely congested conditions (during peak periods).

Policy CI-3.1 states the following:

> Q. County Road 31 (County Road 95 to County Road 98) – LOS C is acceptable.

The most recent traffic study that measured existing level of service conditions along County Road 31 is the Final Transportation Impact Study for Sacred Oaks Healing Center. The study analyzes the traffic impacts of adding 32 beds for Native American youth with substance abuse and related disorders, and the hiring of 70 employees. The study indicates that along County Road 31 the worst-case movement (i.e., stop-controlled southbound left/right lane) would operate at an acceptable LOS B or C during each peak hour of traffic. The study identified three hour-long periods of peak traffic, 7:00-8:00 AM, 12:00-1:00 PM, and 4:00-5:00 PM as peak hours of travel, however it noted that traffic on County Road 31 is fairly constant from 7:00 AM to 6:00 PM. The construction of Sacred Oaks Youth Treatment Facility would cause a 1.2% increase in ADT (Average Daily Traffic) on County Road 31, the proposed facility would cause a 1.7% increase during the AM and midday peaks hours, and 1.3% percent increase during the PM peak hour. The intersection would operate at an overall LOS A with the average delay per vehicle being less than 0.5 seconds. An analysis was also conducted to determine the probability that a vehicle traveling eastbound would need to stop and yield to oncoming traffic before turning left through opposing traffic. The results indicated that for 20 theoretical weekdays, during the peak 15-minutes of the AM peak hour, 65% of the weekdays would experience a vehicle that would need to stop on County Road 31 and wait for an oncoming vehicle to pass before turning left. The posted speed limit along the study segment of County Road 31 is 55 miles per hour (MPH), in the eastbound direction, the 85th percentile speed, the speed at which 85% of vehicles are traveling at or below, was 66 MPH in the eastbound direction and 63 MPH in the westbound direction. There were 37 reported collisions on County Road 31 from March 2006 – February 2016. One third of collisions occurred within (or very near) County Road 31/County Road 95 intersection (which is located further east, along County Road 31), most involved injuries including one fatality and were caused by auto right-of-way violations. The intersection of County Road 31/County Road 95 recently had dedicated left-turn lanes constructed. Along the project frontage of County Road 31, the only two reported collisions involved vehicles running into fixed objects due to travel at unsafe speeds or improper turn movements.

DISCUSSION

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Less Than Significant Impact with Mitigation Incorporated. The proposed Youth Treatment Facility is not expected to generate an amount of trips that would strain traffic along County Road 31. The LOS would remain at acceptable levels of B or C in the worst-case scenarios, with an overall ADT (Average Daily Traffic) increase of 1.2%. The Final Transportation Impact Study for Sacred Oaks Healing Center identified an increased risk of right-of-way violations and collisions as eastbound traffic is forced to slow and decelerate to wait for a gap in the oncoming, westbound traffic to turn into the Youth Treatment Facility. Westbound traffic turning into the Youth Treatment Facility would also need decelerate prior to turning, which would increase the risk of rear-end collisions, as well.

Mitigation Measure TRAN-1

To mitigate for the increased risk to traffic safety, a dedicated left-turn lane shall be constructed for eastbound traffic on County Road 31 and a right turn deceleration taper for westbound vehicles to use entering the facility. This would require widening the shoulder beginning 150-foot prior to the intersection to a width of 8-foot at the intersection curb with the driveway. The Class II bikeway on both sides of County Road 31 shall be maintained.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Less Than Significant Impact. Yolo County does not have a congestion management program, the ADT (Average Daily Traffic) would increase along County Road 31 from the construction of the Sacred Oaks Youth Treatment Facility, but the worst-case traffic modeling showed that the operating LOS would be between LOS B/C, which is identified as acceptable for County Road 31 in the 2030 Yolo County General Plan.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. The project would not result in any change to air traffic patterns, as the project site is not located within the vicinity of a public airport, or a private airstrip. As noted in previous sections, the project site is located just over 2-miles from the nearest airport.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact with Mitigation Incorporated. The project as designed would not substantially increase traffic, but, as demonstrated by the Final Transportation Impact Study for Sacred Oaks Healing Center, the project would result in an increased likelihood of right-of-way violations and rear-end collisions at the project site, as automobiles looking to turn into the Sacred Oaks Youth Treatment Facility must slow down prior to accessing the facility. Mitigation measure TRAN-1, above, would require construction of a dedicated eastbound left-turn lane, and a westbound right-turn deceleration taper on County Road 31 project frontage. Eastbound traffic would access the dedicated left-turn lane and allow traffic to continue along County Road 31 without having to wait for the turning automobile to find a gap in the oncoming traffic, lessening the risk of rear-end collisions and right-of-way accidents.

e) Result in inadequate emergency access?

No Impact. The project would not result in inadequate emergency access.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Less Than Significant Impact with Mitigation Incorporated. As analyzed in the Final Transportation Impact Study for Sacred Oaks Healing Center, the Project would result in safety hazards as people slowed to turn into the driveway, thereby decreasing the performance and safety of the road and bike lane. The proposed inclusion of a dedicated left-turn lane, and a westbound right-turn deceleration lane in MM-Traffic-01 would mitigate the risks associated with entering the facility. The inclusion of a right-turn deceleration taper would lessen the risk of rear-end collisions. Both improvements would mitigate the increased risks of traffic safety for automobiles accessing the Sacred Oaks Youth Treatment Facility, and allow for the continued acceptable LOS. The Class II bikeway on both sides of County Road 31 shall be maintained.

Mitigation Measure MM – Traffic-01: Implement the recommendations from the Final Transportation Impact Study for Sacred Oaks Healing Center, including:

1- Construct a dedicated eastbound left-turn lane on County Road 31 at the project driveway;
2- Maintain the existing six-foot Class II bikeway on both sides of County Road 31 along the project frontage;
3- Construct a westbound right-turn deceleration taper on County Road 31 at the project driveway;
4- Modify the centerline striping along County Road 31 to prohibit passing in the vicinity of the project driveway;
5- Remove the two non-native eucalyptus trees located directly west of the project driveway; and
6- Once the driveway is constructed, conduct a final review of sight distance looking to the left to ensure that the tree near the eastern project boundary does not obstruct the line of sight of oncoming vehicles. If necessary, prune any branches that obstruct that line of sight.

XVII.	UTILITIES AND SERVICE SYSTEMS.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a.	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c.	Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d.	Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	☐	☐	☐	☒

XVII.	UTILITIES AND SERVICE SYSTEMS.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e.	Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f.	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g.	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

DISCUSSION

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?; and

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact. Approval of the encroachment permit project would not have a significant impact on any wastewater or water treatment requirements or existing facilities, other than the temporary increase in likelihood of runoff during the periods of construction and maintenance.

c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. Flooding occurs in the area, and is caused by runoff from the mountain range located 5 miles to the west. The creeks and canals that collect runoff are assumed to be undersized and overtop during storms with as low frequency as three years. The fields extending east of the mountains experience sheet flooding to various depths. Construction of the point of ingress/egress to the Sacred Oaks Youth Treatment Facility would not impact a canal or creek.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?

No Impact. The construction of an access and exit route to and from the Sacred Oaks Youth Treatment Facility, would not require any expansion of water supply facilities.

e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. The construction of an entrance/exit will not require wastewater treatment facilities.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

g) Comply with federal, state, and local statutes and regulations related to solid waste?

No Impact. The proposed project would not have a significant impact on wastewater requirements, water supplies, or landfill capacity, and will comply with regulations related to solid waste that results from construction activities.

XVIII.	MANDATORY FINDINGS OF SIGNIFICANCE.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a.	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒
b.	Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
c.	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

DISCUSSION

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

No Impact. The project would not degrade the quality of the environment. As discussed in Section IV, Biological Resources, of this Initial Study, development of the proposed project would not impact wetland habitat, or any other special status plants or animals. No important examples of major periods of California history or prehistory in California have been identified on or near the site.

b) Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Less than Significant Impact. The Final Transportation Impact Study for Sacred Oaks Healing Center identified an increase of 1.2 percent in the average daily traffic (ADT) along County Road 31. The identified increase in ADT will result from automobiles seeking entry and exit from the proposed Youth Treatment Center but is not a significant impact to the overall LOS along County Road 31 as the roadway was identified as having a fairly constant traffic flow from 7 AM to 6 PM. The Transportation Impact Study prepared a worst-case movement scenario (i.e., stop-controlled southbound left/right lane) would

operate at an acceptable LOS B during each of the peak traffic hours, LOS B is identified as an acceptable service on County Road 31, which is why the project will have less than cumulatively significant impacts.

c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant Impact with Mitigation Incorporated. Based on the analysis provided in this Initial Study, there would an increased average daily traffic (ADT) and increased likelihood of rear-end and right-of-way violation collisions resulting from the encroachment from the proposed Sacred Oaks Youth Treatment Facility (APN 038-110-016) County Road 31, without an east bound left-turn pocket, and west-bound deceleration lane. Those impacts are mitigated by incorporating Mitigation Measure MM-TRAFFIC 1.

References

Project application materials provided by applicant.

Fehr and Peers, 2017. *Final Transportation Impact Study for Sacred Oaks Healing Center,* June 2017.

Indian Health Service, 2015. *Northern California Youth Regional Treatment, Sacred Oaks Healing Center Environmental Assessment*, September 2015.

Wong, 2008. Phone call with Maria Wong, Habitat JPA Manager, November 26.

Yolo County, 2008. *Yolo County Improvement Standards*, as amended.

Yolo County, 2009. *Yolo County 2030 Countywide General Plan*, adopted November, 2009, as amended, and *Yolo County 2030 Countywide General Plan Final EIR*, April 2009

Yolo County, 2014. *Zoning Ordinance, Title 8, Chapter 2 of the County Code*, 2014, as amended.

Yolo Solano Air Quality Management District, 2007 *Handbook for Assessing and Mitigating Air Quality Impacts.*

Attachments

A. Northern California Youth Regional Treatment, Sacred Oaks Healing Center Environmental Assessment

B. Northern California Youth Regional Treatment, Sacred Oaks Healing Center Draft Finding of No Significant Impact

C. Final Transportation Impact Study for Sacred Oaks Healing

Attachment A

NORTHERN CALIFORNIA
YOUTH REGIONAL TREATMENT CENTER
SACRED OAKS HEALING CENTER

CALIFORNIA AREA INDIAN HEALTH SERVICE

ENVIRONMENTAL ASSESSMENT
SEPTEMBER 2015

PREPARED BY:

406 North Church Avenue
Tucson, Arizona 85701

ENVIRONMENTAL ASSESSMENT

NORTHERN CALIFORNIA
YOUTH REGIONAL TREATMENT CENTER
YOLO COUNTY, CALIFORNIA

DEPARTMENT OF HEALTH AND HUMAN SERVICES
INDIAN HEALTH SERVICE
CALIFORNIA AREA OFFICE

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SEPTEMBER 2015

EXECUTIVE SUMMARY

The United States Department of Health and Human Services, Indian Health Service proposes to construct and operate a Youth Regional Treatment Center within Northern California. The Youth Regional Treatment Center would be located west of Davis, California, within Yolo County. The Youth Regional Treatment Center (Sacred Oaks Healing Center) would provide specialized health care services to American Indian/Alaska Native youth that are not currently available in California.

The need for a youth regional treatment center was established in the 1980s. The Indian Health Care Improvement Act, Public Law 94-437, which was amended in 1992 by Public Law 102-573, states in Section 704 that the Indian Health Service Area Office in California shall construct and operate one youth regional treatment center in the northern area and one to serve the remainder of the state (Indian Health Service, 2000). The requirements of the law are based on results of a study conducted by the National Institutes of Mental Health, which indicated that five percent of the adolescent American Indian/Alaska Native population in California showed substance use disorders. This amounts to 7,950 youth based on Census 2000 data. In 2001, California tribal leaders voted to develop residential treatment services for American Indian/Alaska Native youth in California to comply with Public Law 94-437/102-573. An interim treatment program was developed by the Southern Indian Health Council but although this program was effective, there were major shortcomings that precluded its continuance (California Area Indian Health Service, 2003).

The Youth Regional Treatment Center will consist of developing a 3,738 square meter (40,235.5 square feet) facility on 4.86 hectare (12-acre) parcel, which is currently irrigated farmland. The proposed Youth Regional Treatment Center would treat up to 96 American Indian/Alaska Native youth per year on a resident basis (California Area Indian Health Service, 2003), and create 70.2 new staff positions.

This Environmental Assessment was prepared in accordance with the National Environmental Policy Act of 1969 (42 United States Code 4321 et seq.), the Council on Environmental Quality regulations (40 Code of Federal Regulations 1500-1508) for implementing National Environmental Policy Act, the United States Department of Health and Human Services General Administrative Manual, Part 30, and the current Indian Health Service Environmental Review Manual (Department of Health and Human Services/Indian Health Service 2007).

This Enviornmental Assessment analyzes the potential environmental impacts that would result from the Proposed Action and alternatives that were considered for the location of a Youth Regional Treatment Center in Northern California. The Proposed Action alternative and the No Action alternative are the two reasonable alternatives considered for this project. Under the No Action alternative, the Youth Regional Treatment Center would not be constructed.

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ACRONYMS AND ABBREVIATIONS

ºF	Fahrenheit
ac-ft/year	acre-foot per year
ADT	Average Daily Traffic
AI/AN	American Indian/Alaska Native
BIA	Bureau of Indian Affairs
BLM	U.S. Bureau of Land Management
BMP	Best Management Practice
CAA	Clean Air Act
Caltrans	California Department of Transportation
CAPs	criteria air pollutants
CARB	California Air Resources Board
CATAC	California Area Tribal Advisory Committee
CBRA	Coastal Barrier Resources Act
CDFG	California Department of Fish and Game
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CGP	Construction General Permit
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CPC	California Plumbing Code
CR	County Road
CWA	Clean Water Act
CVFED	Central Valley Floodplain Evaluation and Delineation Program
CZMA	Coastal Zone Management Act
dB	Decibel
dBA	Decibel Measurement Unit
DHHS	United States Department of Health and Human Services
DWR	State of California Department of Water Resources
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
GHG	greenhouse gas
gpd	gallons per day
gpm	gallons per minute
ha	Hectares
HVAC	Heating Ventilation and Air Conditioning

IHS/CAO ..... Indian Health Service California Area Office
IHS ..... Indian Health Service
LEED ..... Leadership in Energy & Environmental Design
LOS ..... level of service
LPD ..... liters per day
LSD ..... Logan Simpson Design
mph ..... miles per hour
MCLs ..... Maximum Contaminant Levels
NAAQS ..... National Ambient Air Quality Standards
NEPA ..... National Environmental Policy Act
NHPA ..... National Historic Preservation Act
NOI ..... Notice of Intent
NO_x ..... nitrogen oxides
NPDES ..... National Pollution Discharge Elimination System
NPS ..... National Park Service
NRCS ..... National Resources Conservation Service
NRHP ..... National Register of Historic Places
OSHA ..... Occupational Safety and Health Administration
PJD ..... Program Justification Document
PL ..... Public Law
PM ..... particulate matter
ROW ..... right-of-way
SCAQMD ..... South Coast Air Quality Management District
SDWA ..... Safe Drinking Water Act
SHPO ..... State Historic Preservation Officer
SIPs ..... state implementation plans
SO_2 ..... sulfur dioxide
SSA ..... Sole Source Aquifer
SVAB ..... Sacramento Valley Air Basin
SWPPP ..... Storm Water Pollution Prevention Plan
ug/L ..... microgram per liter
USC ..... United States Code
USDA ..... United States Department of Agriculture
USFWS ..... United States Fish and Wildlife Service
USGS ..... United States Geological Survey
USTs ..... underground storage tanks
VOCs ..... volatile organic compounds
YCDH ..... Yolo County Department of Health
YCFCWCD ..... Yolo County Flood Control and Water Conservation District
YCTD ..... Yolo County Transportation District
YSAQMD ..... Yolo Solano Air Quality Management District
YRTC ..... Youth Regional Treatment Center

CHAPTER 1 INTRODUCTION

1.1 Introduction

This Environmental Assessment (EA) was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] 4321 et seq.), the Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] 1500 through 1508) for implementing NEPA, the United States Department of Health and Human Services' (DHHS) revised GAM Part 30, which details environmental protection and NEPA policy for the Department, and Indian Health Service (IHS) (NEPA) Environmental Review Manual (DHHS/IHS 2007).

Key goals of NEPA are to help Federal agency officials make well-informed decisions about agency actions and to provide a role for the general public in the decision-making process. The study and documentation mechanisms associated with NEPA seek to provide decision-makers with sound knowledge of the comparative environmental consequences of the several courses of action available to them. NEPA studies, and the documents recording their results, such as this EA, focus on providing input to the particular decisions faced by the relevant officials.

In this case, the Indian Health Service California Area Office (IHS/CAO) will decide whether to fund the construction and operation of a Youth Regional Treatment Center (YRTC) in Davis, California (the Sacred Oaks Healing Center). The Associate Director, Office of Environmental Health and Engineering, will make this decision in part based on the results of this EA, the overall management framework already established for the IHS, and the legislation guiding the actions of the IHS.

The Purpose of an EA

An EA is a study conducted by a Federal agency to determine whether an action the agency is proposing to take would significantly affect any portion of the human or natural environment. The intent of the EA is to provide project planners and Federal decision-makers with relevant information on a Proposed Action's impacts on the environment.

If the EA finds that no significant impacts would result from the action, the agency can publish a Finding of No Significant Impact (FONSI), and can proceed with the action. If the EA finds that significant impacts would result from the action, then the agency must prepare and publish a detailed Environmental Impact Statement (EIS) to help it decide about proceeding with the action.

Public and agency participation was solicited in the preparation of this EA in an effort to involve the general public and agencies in determining the scope of issues to be addressed. Among other tasks, scoping determines important issues and eliminates issues not important; allocates assignments among the interdisciplinary team members and/or other participating agencies;

identifies related projects and associated documents; identifies other permits, surveys, and consultations required by other agencies; and creates a schedule that allows adequate time to prepare and distribute the environmental document for public review and comment before a final decision is made. Scoping includes any interested agency or any agency with jurisdiction by law or expertise to obtain early input.

To satisfy scoping requirements for this project, a scoping package was provided electronically to federal, state and local public officials, community groups, non-governmental organizations, and other interested parties requesting their input on issues addressed in the EA. The scoping package included a brief description on the project, purpose and need, description of the site, site location maps, and summary of preliminary research regarding effects of the project on environmental and social issues. Follow up phone calls were made to all recipients to answer any questions and ensure they had received the scoping package. IHS underwent consultations with several State and Federal agencies regarding the project. For a more detailed discussion of the scoping process, including persons and agencies contacted and agency consultation letters, refer to Chapter 7 and Appendix B, respectively.

1.2 Location and Setting

The project site is located seven miles (11.3 kilometers) west of the City of Davis, California in Yolo County, at 33250 County Road (CR) 31. The parcel is located at approximately 38°33'43.77" North Latitude and 121°53'39.59" West Longitude, within Sec. 5, T8N, R1E, Mount Diablo Meridian (Figure 1-1). The site is bordered on three sides by agricultural land under active cultivation. CR 31 borders the site to the south, and CR 93A intersects with CR 31 at the southwestern corner of the site. The existing DQ University is located 1,400 feet to the northeast.

The site contains no structures. Irrigation ditches border the west and east sides of the site. The entire site is owned by the federal government but has been leased to allow the farming of hay for over 30 years, and it is currently in active cultivation. The YRTC will consist of a 3,738 square meter (40,235.5 square feet) facility and associated infrastructure. A paved driveway would provide access to the facility from CR 31 to paved parking areas within the interior of the site. The remainder of the property will be developed for stormwater management, wastewater treatment, gardens, and ceremonial facilities. The proposed facility would provide enough space to treat up to 96 American Indian/Alaska Native (AI/AN) youth per year on a resident basis, and create approximately 70.2 new staff positions.

The project site is located within the Great Valley Physiographic Province of the Sacramento River, in the Sacramento Valley bioregion. The Coastal Range Foothills border the valley to the west and drain into the region around the project site. The Great Valley area has an average rainfall of 20 inches a year, with temperatures ranging from below freezing to mid-summer highs

over 100°F. Most of the native environment has been removed or altered by agriculture. The entire area is largely under agricultural cultivation with a few large lot homes in the surrounding area. The predominant vegetative community on the site is hay grass, which is actively cultivated on the site and adjacent fields.

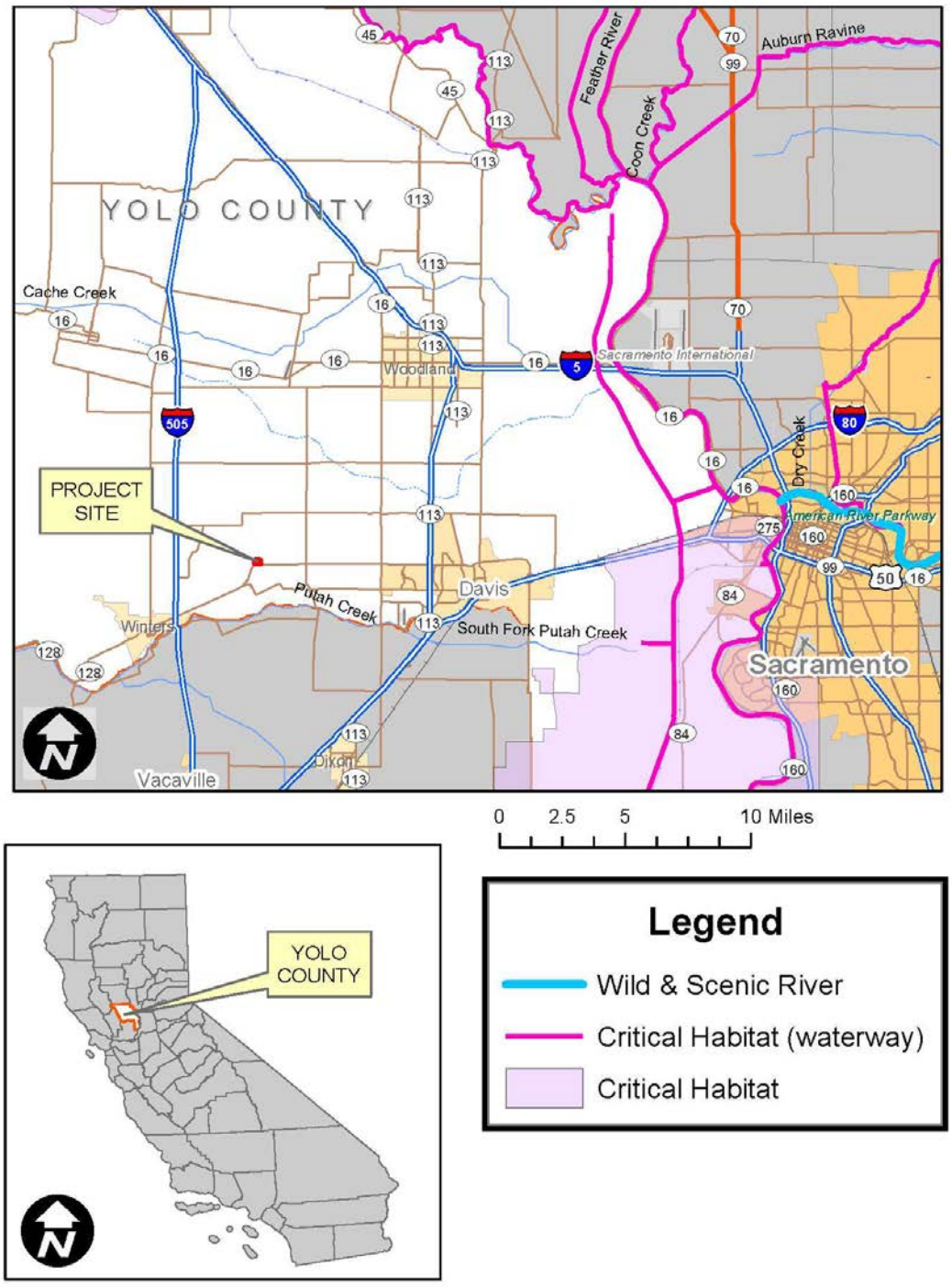

Figure 1-1 Regional Location

1.3 Project History and Background

Substance abuse treatment programs and services for AI/AN youth are limited to Tribal and urban Indian Health programs which only provide outpatient treatment services in the Indian communities. Residential/inpatient treatment programs and services provided by private-sector health care providers have not appropriately addressed the unique cultural needs of Indian youth living in California.

IHS, to enable coordination with all the California tribes and communities, created the California Area Tribal Advisory Committee (CATAC) in 1997. Comprised of elected tribal leaders from all regions of California, the CATAC oversees the YRTC Task Force. The YRTC Task Force, which is composed of elected tribal leaders, tribal health program administrators, and clinical substance abuse treatment health professionals, has taken on the task of determining how best to provide residential substance abuse treatment for AI/AN youth in California.

In 2001, California tribal leaders voted to develop two YRTCs in accordance with Public Law (PL) 94-437, amended to PL 102-573. The IHS/CAO submitted two Program Justification Documents (PJD) in 2003 seeking funding to develop the YRTCs, one in Northern California and one in southern California. Both YRTCs would serve AI/AN youth from any portion of California.

In order to meet the requirement to develop a YRTC in Northern California, the IHS/CAO evaluated four sites in an initial Phase 1 Site Selection and Evaluation Report (SSER) completed in June 2007. Three of the sites were dismissed from further consideration, and one site was considered in a subsequent SSER amendment in December 2008. A preferred site for the YRTC was then identified by the amended SSER and a draft EA was prepared. The properties included in the November 2008 Amendment SSER Phase I were (not listed by ranking):

1. Oak Grove, on Highway 70, a carry-over from June 2007 SSER—this property was sold during the amendment process.

2. Marr, in Oroville, a new property brought by a broker. Family strife took it off the market.

3. Honeyrock (Christian Outreach Ministries—1932 stone building), in Oroville. The Marr broker also brought this late entry.

4. Wheatland, on Hwy 65, ranked very poorly, and was never considered viable again.

This amendment led to very strong consideration for Honeyrock, including engineering studies, utility engineering, roadway/traffic assessment, public meeting and a draft EA. Major neighborhood backlash led to a letter from Congressman Tom McClintock to Secretary Sebelius

threatening a congressional investigation into all IHS Tribal funding, resulting in the Area Director's decision to seek alternative locations, outside of the Butte County. IHS then prepared a SSER in January 2011, including properties in Vacaville and Fairfield, Winters and Esparto, but those properties had substantial issues with planning and access. A new SSER was prepared in February 2012, including D-Q University, a second offering in Butte County on Clark Road, the Fremont-Rideout Psychiatric Hospital in Yuba City, and a second look at the Live Oak property on Highway 70. Tribes in the Oroville area sensed a level of discontent among the Oroville residents that would continue to impact our ability to adequately serve the youth in that area. Clark Road was dismissed because it was in Butte County. Oak Grove was sold. The Psychiatric hospital in Yuba was determined to be too institutional and very difficult to create a cultural atmosphere for the clients. Additionally, there was only enough funding approved for land purchase, not for land and facility purchase. Owners could not wait for the new funding request cycle. Rideout was dismissed. D-Q U became the final choice with overwhelming support form Tribal governments throughout the state, and IHS' ultimate acquisition target.

Four additional parcels were identified in Northern California as potential suitable sites for the YRTC, and in 2012 a Phase I SSER was conducted on these four sites. Each potential site was surveyed in terms of site requirements, accessibility, adequacy of support services, utilities, potential flood problems, historical and cultural resources, and other applicable considerations. One site, located at the DQ University Campus, best met the criteria for the proposed YRTC.

1.4 Purpose and Need

IHS proposes to construct and operate a YRTC in Northern California within the IHS/CAO. The YRTC would provide substance abuse treatment services to AI/AN youth throughout the Northern California region.

The YRTC would consist of a 3,738 square meter (40,235.5 square foot) facility on a 4.86 hectares (ha) (12-acre) parcel owned by the federal government and leased to allow for farming of animal feed (Figure 1-2). This facility would have the capacity to treat up to 96 AI/AN youth per year on a resident basis (CAIHS 2003), and create 70.2 new professional staff positions. The proposed facility would also have five family suites to allow concurrent treatment of the family of the youth in residence. A conceptual site plan is provided on Figure 1-3.

The purpose of the project is to develop regional treatment facilities for at-risk youths and ensure that comprehensive, culturally acceptable personal and public health services are available and accessible to AI/AN youth. This project will further the federal government's obligation to develop and administer comprehensive health care delivery systems that meets the needs of Indian people, promote healthy AI/AN communities and cultures, and honor and protect the inherent sovereign rights of Tribes.

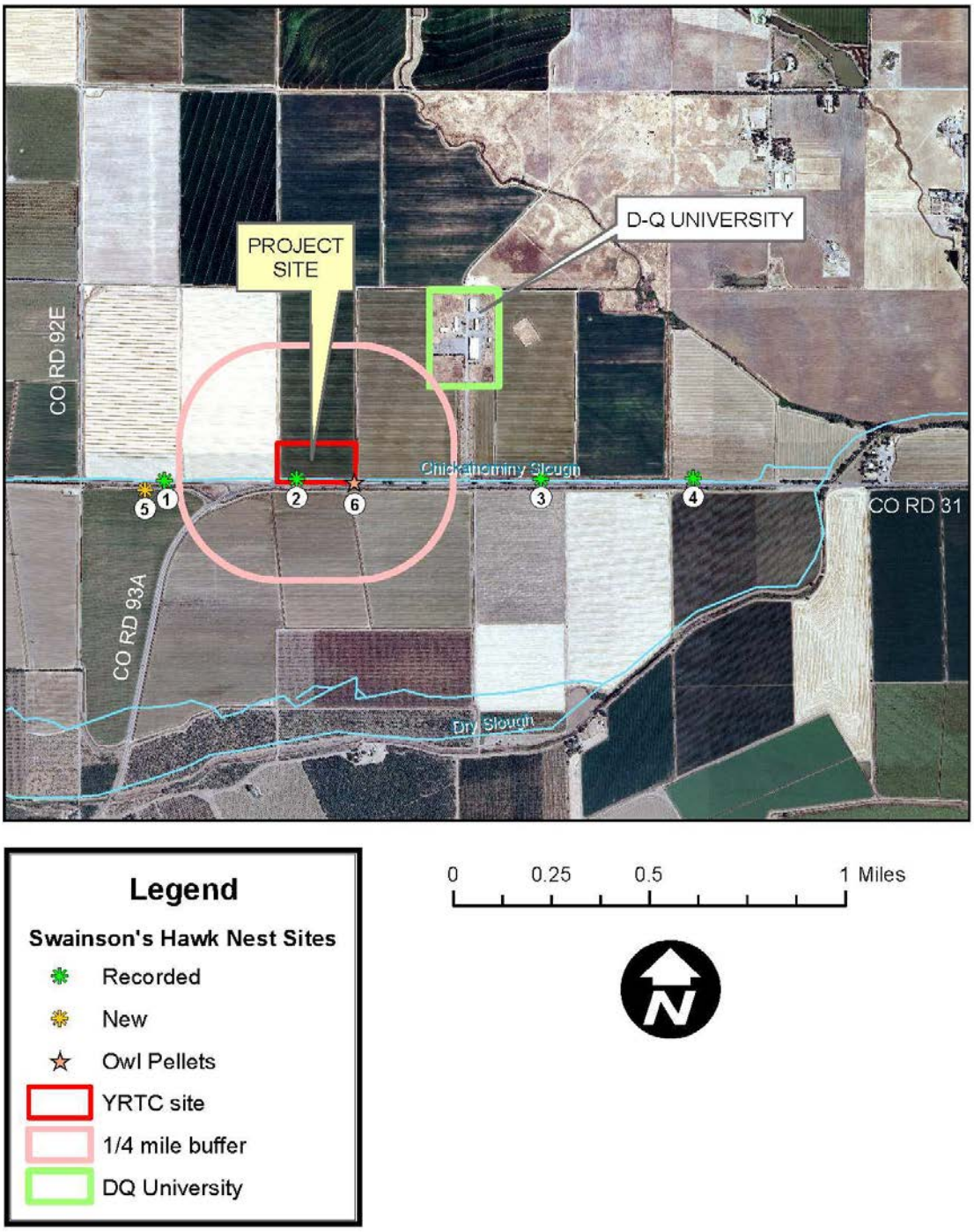

Figure 1-2 Site Location Map

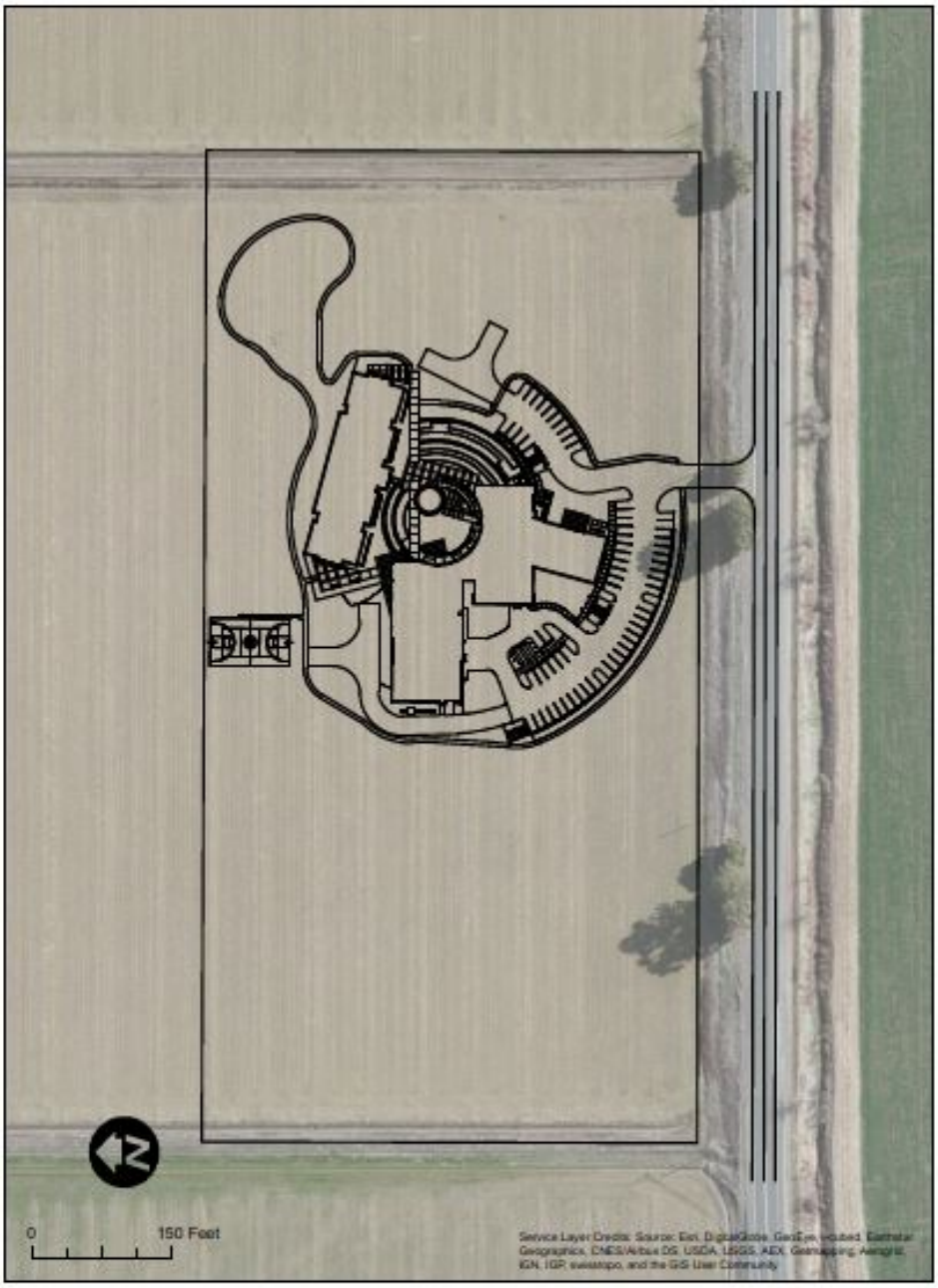

Figure 1-3 Conceptual Site Plan Layout

The need for a YRTC was established in 2001 when California tribal leaders voted to develop residential treatment services for AI/AN youth in California, to comply with the Indian Health Care Improvement Act, PL 94-437 and amendment PL 102-573. The amendment states in Section 704 that the IHS Area Office in California shall construct and operate one YRTC in the northern area and one to serve the remainder of the state (IHS 2000). The requirements in the law are based on results of a study conducted by the National Institutes of Mental Health, which indicated that five percent of the adolescent AI/AN population in California showed substance use disorders. This amounts to about 7,950 youths according to Census 2000 data. The Southern Indian Health Council created an interim treatment program; however, due to technical and administrative constraints, it was discontinued (CAIHS 2003).

The goal of the project to construct a youth treatment center is to help the IHS ensure that residential/inpatient rehabilitation, community-based rehabilitation, and follow-up services for substance abuse are available and accessible to AI/AN youth in Northern California. The facility will include:

- 32 beds for AI/AN (16 male; 16 female)
- 6 beds for close observation
- 5 family suites
- Case history assessments, evaluation, and testing
- Individual, group, and family counseling sessions
- Individualized treatment
- Activities to meet educational, spiritual and cultural needs

Ultimately, this facility will support the IHS mission, in partnership with AI/AN people, to raise the physical, mental, social, and spiritual health of the AI/AN to the highest level.

1.5 Environmental Issues Addressed in this EA

In accordance with NEPA, and based on a review of the project site, the following environmental issue areas are evaluated in this EA:

- Air Quality
- Water Resources
- Land Resources
- Cultural Resources
- Biological Resources
- Socioeconomics
- Transportation and Access
- Land Use
- Utilities and Public Services
- Noise
- Hazardous Materials and Solid Management
- Visual Resources
- Waste Water Treatment
- Human Health and Safety
- Climate Change

1.6 Environmental Issues Dismissed from Analysis

The following issues and impact topics were dismissed from analysis in this EA because the Proposed Action would have no direct, indirect, or cumulative effects to these resources:

Wetlands: Wetlands are areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas, and are protected under the federal Clean Water Act

(CWA) Section 404 permit program. The soils in the area are mapped as not hydric. A site visit has further concluded that there are no wetlands on or near the proposed project site. Therefore, this topic is dismissed from further analysis.

Coastal Zones: The Coastal Zone Management Act (CZMA) encourages states to preserve, protect, develop, and where possible, restore or enhance valuable natural coastal resources such as wetlands, floodplains, estuaries, beaches, dunes, barrier islands, and coral reefs, as well as the fish and wildlife using those habitats. The CZMA and its implementing regulations require Federal agencies proposing actions, whether within or outside of a State's coastal zone, to determine if the action is reasonably likely to affect any land or water use or natural resource within that coastal zone. There are no coastal zones within the vicinity of the site; therefore this topic is dismissed from further analysis.

Wild and Scenic Rivers: The National Wild and Scenic Rivers Act is administered by four federal agencies: the United States Bureau of Land Management (BLM), the National Park Service (NPS), the United States Fish and Wildlife Service (USFWS), and the United States Forest Service. The Act protects selected rivers, and their immediate environments, which possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values. The nearest wild and scenic river is the American River located in Sacramento County. It is located 20 miles (32 kilometers) east of the site, and flows into the Sacramento. This topic is dismissed from further analysis.

Coastal Barrier Resources: The Coastal Barrier Resources Act (CBRA) restricts Federal expenditures and financial assistance which would have the effect of encouraging development of coastal barriers. The Act established a Coastal Barrier Resources System consisting of those undeveloped coastal barriers located on the Atlantic and Gulf coasts of the United States. The coastal barriers provide habitat for migratory birds and wildlife, and contain resources of extraordinary scenic, scientific, natural, historic, and other importance. The project area is not in the vicinity of the Coastal Barrier Resources System; therefore, this topic is dismissed from further analysis.

National Natural Landmarks: Federal agencies must assess the impacts their actions have on National natural landmarks such as Wildlife Sanctuaries, National Wildlife Refuges, and Wildlife Preserves. There are no wildlife refuges, sanctuaries, or other natural landmarks in the vicinity of the project site; therefore, this topic is dismissed from further analysis.

Environmental Justice/Protection of Children: Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, requires Federal agencies to identify and address any disproportionate adverse human health or environmental effects of its projects on minority or low-income populations. Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, directs Federal

agencies to "identify and assess environmental health risks and safety risks that may disproportionately affect children."

The average median household income in Yolo County is $57,920, compared to $47,493 in California. In Yolo County, 19.1 percent of the population is below poverty level, compared to 15.9 percent in California. Though the area in general has higher poverty rate than the state, the proposed project is not expected to have disproportionately high and adverse effects on low income population. The proposed project would increase opportunities for employment in the short-term from construction and operation of the facility would provide long-term treatment opportunities for AI/AN youth in Northern California. Because no disproportionate impacts on children, minority, or low-income populations would result from the alternatives, this topic was eliminated from further analysis in this EA.

1.7 Overview of the Environmental Process

The EA has been released for a 30-day public comment period. Comments will be considered by the IHS/CAO, and either a FONSI will be prepared, or additional environmental analysis will be conducted.

1.8 Regulatory Requirements and Approvals

The following direct and indirect federal actions may occur as a result of the Proposed Action:

- Apply for a National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity in Compliance with the Environmental Protection Agency (EPA);
- Consultation with the USFWS under Section 7 of the Federal Endangered Species Act, if endangered species may be impacted by the Proposed Action.
- Consultation with the State Historic Preservation Office (SHPO) under Section 106 of the National Historic Preservation Act (NHPA), if historic properties may be impacted by the project.

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CHAPTER 2 PROPOSED ACTION AND ALTERNATIVES

The Proposed Action and project alternatives are described and compared in this section. This section also describes the alternatives that were considered but rejected based on specific site selection criteria evaluated for each sit by the IHS/CAO. The project alternatives considered in this EA consist of:

- The Proposed Action – Development of a 3,738 square meter (40,235.5 square foot) YRTC on 4.86 ha (12 acres) of irrigated farmland.
- No Action Alternative – No federal action or proposed development.

2.1 Alternatives under consideration

2.1.1 Proposed Action

The IHS proposes to design and construct a YRTC on a portion of the DQ University campus located at 33250 CR 31 in Yolo County, California. The parcel is located at approximately 38°33'43.77" North Latitude and 121°53'39.59" West Longitude, within Sec. 5, T8N, R1E, Mount Diablo Meridian, and is shown on United States Geological Survey (USGS) Quad Winters (Figure 2-1).

The YRTC will consist of a 3,738 square meter (40,235.5 square foot) facility on a 4.86 ha (12-acre) parcel. Access to the facility would be from CR 31 (a Yolo County roadway). The YRTC would have the capacity to treat 96 AI/AN youth per year on a resident basis and create 70.2 new staff positions (CAIHS 2003). The proposed facility would also have five family suites to allow concurrent treatment of the family of the youth in residence.

Approximately 40 construction jobs will be provided in the short term. Employment at the YRTC would be offered to California tribal members and local community residents. California Indian tribes had a 40 percent unemployment rate in 2003. Yolo County and Sacramento County has unemployment rates of 9.5 percent and 7.7 percent, respectively (BLS 2013). Employment conditions for California tribes and the local community will be improved as a result of this project.

Construction of the YRTC is expected to begin in 2016, and continue for up to one year. IHS would provide the funding to construct the YRTC through new facilities construction funding authorized by Congressional Appropriations under the Health Facilities Construction Priority System. The federal FY15 budget authorized $17.1 million for this project.

Figure 2-1 DQ University and three alternate site locations

IHS would be required to incorporate Leadership in Energy & Environmental Design (LEED) Green Building Design Standards in the design of the YRTC, use alternative energy sources such as solar, geothermic, and wood biomass, and to use eco-friendly building materials to the extent possible. Additionally, IHS would design the project to avoid and minimize short- and long-term impacts on the environment.

2.1.2 No Action

No permanent center currently exists within Northern California to serve AI/AN youth in need of substance abuse treatment services. Under the No Action alternative, YRTC would not be constructed. Youth would continue to be treated at outpatient care facilities that do not address the unique cultural needs of AI/AN youth. In addition, the existing facilities would not meet the health care demands of the present and projected population of AI/AN youth in need of treatment.

The No Action alternative would not change existing land use activities, or cause any environmental impacts. No residential treatment center would be constructed, and the purpose and need for the project would not be met.

Should IHS not acquire the DQ University property for development of the YRTC, the site would remain the property of the federal government and the existing agricultural lease would continue.

2.2 Alternatives considered but rejected

CEQ regulations for implementing NEPA require that Federal agencies explore and objectively evaluate all reasonable alternatives to a proposed action, and to briefly discuss the rationale for eliminating any alternatives that were not considered in detail. The preferred site on the DQ University campus (the Proposed Action) and three alternative sites were considered in the Phase I SSER completed in 2012 (SSER 2012). All of the sites were evaluated according to the *Technical Handbook for Environmental Health and Engineering Volume II Health Care Facilities Planning, Part 13-4 – Site Selection and Evaluation Process* during a site inspection conducted on November 15, 2011. Each site was numerically ranked based on the evaluation of site selection parameters such as site access, community features, physical parameters, environmental considerations, and suitability for the YRTC. The numerical ranking for each of the sites was then tabulated to obtain an overall score. The DQ University site scored is 1,855. For more detailed information on the screening criteria, and how the site was chosen, refer to the site rating sheets in the February 2012 Phase I Site Selection & Evaluation Report (IHS 2012). Section 1.3 also provides additional details regarding why the D-Q University site was chosen. The alternative sites are not evaluated fully in this EA because they are no longer under active consideration.

The three alternative sites that were considered in the SSER but rejected are:

- **Clark Road** (Butte County) - Ranked as #2 by the SSER with a score of 1,798. This site is located on a 5.67 ha (14 acres) parcel near the intersection of State Highway 191 and State Highway 70 near the town of Oroville. This parcel is currently zoned for sports and entertainment. Electrical service lines transect the property. No public water or sewer utility is available. Housing is abundant in the town of Oroville. The property is situated on a public transportation route. The relatively flat site has positive drainage and there was no water standing during the time of the investigation. Distances to major cities for quality housing and community services include: Oroville – 9.1 miles (14.7 kilometers); Paradise – 12.1 miles (19.5 kilometers); Marysville – 34.3 miles (55.2 kilometers); Sacramento – 75.5 miles (121.5 kilometers).

- **Yuba Hospital** (Sutter County) – Ranked #3 by the SSER with a score of 1,758. This site is located on approximately 2.26 ha (5.6 acres) parcel with an existing 4,738 GSM acute psychiatric hospital at 1251 Stabler Lane, in Yuba City. The facility was built in 1991. The site is in an urban setting with retail, law enforcement, and a church immediately adjacent. This property is fully landscaped with 129 paved parking spaces, enclosed courtyards, and a secure sports yard. The site is appropriately zoned for the inpatient function that was operating until 2009, when state funding was terminated. Electrical service, water, and sewer waste water disposal are all city services. Local public transportation is available. Distances to major cities for quality housing and community services, which are plentiful in Yuba City, include: Marysville – 3.4 miles (5.5 kilometers); Oroville – 30 miles (48.3 kilometers); Sacramento – 42 miles (67.6 kilometers).

- **Live Oak** (Sutter County) – Ranked #4 by the SSER with a score of 1,605. This site is located on a 4.05 (10 acres) ha parcel approximately 4 miles (6.4 kilometers) north of Yuba City. The property fronts on Live Oak Road, a two-lane county-maintained, paved road, which connects to State Highway 99 via a controlled off-ramp. Zoning is for agricultural use. Electrical service is available. Water and septic will be established on-site. Local public transportation is not available. Distances to major cities for quality housing and community services include: Marysville – 7.5 miles (12 kilometers); Oroville – 26.1 miles (42 kilometers); Sacramento – 46 miles (74 kilometers).

2.3 Comparison of the Proposed Action and No Action Alternative

Table 2-1 summarizes the environmental effects of the various alternatives. It provides a quick comparison of how well the alternatives respond to the project need, objectives, significant issues, and impact topics. Chapter 4 discusses the environmental consequences of the proposed alternatives in detail.

Table 2-1 Environmental Effects of Proposed Action and No Action Alternatives

Environmental Resource/ Component	Proposed Action	No Action
Air Quality	*Yolo County is a nonattainment area for air quality.* • Temporary, minor, adverse impacts on air quality during the construction phase from equipment emissions and fugitive dust • Negligible to minor adverse impact during operation	• No changes in current air quality conditions around the project area
Invasive and Noxious Species	*Invasive species may be present on the site as it is currently disturbed* • Minimization measures will be utilized to limit the spread of invasive species during construction • Native species will be planted as part of the landscaping component • Minor to moderate, beneficial impacts to invasive species	• Invasive species may develop on the site if current agricultural practices are withdrawn. This would potentially cause the spread of invasive and noxious species to neighboring lands.
Topography, Soils	*The site is flat;* • No adverse impacts on topography • Localized, negligible to minor, adverse impacts on soils due to disturbance and compaction during site preparation and construction activities • Negligible to minor, short-term increase in soil erosion as a result of construction activities	• If the proposed action is not pursued, there would likely be no changes to the topography or soils on site.
Water Resources	*No surface water resources or groundwater wells are currently located on the site;* • Localized, negligible to minor, adverse impacts on water quality due to risk of spills and runoff during construction and operation activities • Minor adverse impacts on surface and ground water quantity by the additional diversions to sustain the YRTC	• Continued agricultural use of the current facility would have no change on water resources.

Environmental Resource/ Component	**Proposed Action**	**No Action**
Waste and Hazardous Materials Management	• Negligible adverse impacts on waste water management are anticipated • Negligible adverse impacts on solid waste management related to construction and operation activities are anticipated	• Continued agricultural use of the land would have no change on waste management.
Geologic Seismic	• The new YRTC would be built using modern, seismically safe design, therefore no impacts to geologic or seismic concerns	• Continued agricultural use of the land would have no change on waste management.
Cultural and Historic Resources	• No impacts to historical or cultural resources are anticipated.	• No impacts to historical or cultural resources are anticipated
Visual Resources	The proposed facility would not be within sight of residential neighbors • Negligible adverse visual impacts of new YRTC facility	• No impacts on visual resources, adverse or beneficial
Land Use	• The proposed facility would be compatible with neighboring land uses and is consistent with the goals and policies of the county General Plan • Minor beneficial impacts on land use	• No impacts on land use, adverse or beneficial
Socioeconomics	• Temporary, minor to moderate, localized beneficial impact due to the creation of employment from construction • Minor localized, beneficial impact due to the creation of employment from operation of the YRTC • Long-term, minor to moderate, regional beneficial social impacts from YRTC operations	• No changes in regional employment or local economy • No potentially beneficial impacts realized from job creation associated with new facility
Utilities and Public Service	• Temporary, minor potential to interrupt utility lines during construction • Negligible to minor long-term increases in demand for utilities and public service	• No potential to damage or disrupt utility lines in the area • No changes in demand for utilities and public services

Environmental Resource/ Component	**Proposed Action**	**No Action**
Transportation and Access	*Primary access to the YRTC would be provided via private driveway from CR 31 along the southern border of the site;* • Minor increases of traffic on CR 31 from both construction and operation of YRTC	• No changes are anticipated to transportation
Noise	• Temporary, minor adverse noise impacts during construction activities • Negligible increase in noise impacts during operation activities at YRTC	• No changes in noise levels around the project area
Human Health and Safety	• Negligible, temporary, localized adverse impacts on human health and safety from construction activities due to fugitive dust, increased traffic, use of heavy equipment, and accidental spills • Moderate to major beneficial impact from availability of residential treatment for AI/AN youth	• Minor to moderate adverse impact to AI/AN youth from continuance of insufficient or unavailable treatment
Floodplain	*The site is within the 100-year floodplain of adjacent watercourses* • Appropriate floodplain mitigation would be required to raise the finished floor elevations at least 1 foot above the 100-year flood elevation	• No grading or elevation change, therefore, no impacts to the floodplain
Rare, Threatened and Endangered Species	• Potential temporary disturbance to endangered species	• No change in vegetation or habitat, therefore, no impacts to listed species
Prime and Unique Farmland	*Site soils are mapped as prime farmland if irrigated* • Loss of 4.86 (12 acres) of farmland. • Minor adverse impact to prime farmland	• No loss of farmland

Environmental Resource/ Component	**Proposed Action**	**No Action**
Global Warming	• Temporary increase in CO2 emissions during building construction • Minor increases in CO2 emissions during maintenance and operation of the building • Minor increases in CO2 emissions from increased traffic volume in area due to facility visitations • Negligible overall impacts on global warming	• There would be no construction or maintenance of a new building to increase CO2 emissions

CHAPTER 3 AFFECTED ENVIRONMENT

3.1 Air Quality

The project site is located in the Sacramento Valley Air Basin (SVAB), which includes Yolo, Sacramento, Yuba, Sutter, Butte, Tehama, Shasta, Glen, Colusa, and parts of Placer and Solano counties. The project site is currently under the jurisdiction of the Yolo Solano Air Quality Management District (YSAQMD); however, trust lands are under the jurisdiction of the EPA.

The climate in the SVAB is classified as Mediterranean, with mild, wet winters and warm, dry summers. The major climatic influences are the Pacific High Pressure system over the eastern Pacific Ocean and the local valley topography. The project area's proximity to the Pacific Ocean and location within the Central Valley are the greatest influences on temperature variability in the project area. In the summer the average temperature is 89.3 degrees Fahrenheit (ºF), whereas the average winter is 55.6 ºF. Hot spells can occur with temperatures exceeding 100 ºF and are typically caused by a lack of airflow and low humidity; these spells do not allow air pollutants to disperse from the SVAB. Annual average rainfall is approximately 18.15 inches. Heavy rains that occur mainly in mid-winter reduce air pollutions in the project area (WRCC 2009).

The north-south alignment of the valley, the coast range, and the Sierra Nevada Mountains strongly influence wind flow in the project area. The prevailing wind in the area is southerly all year. The prevailing wind moves through the Carquinez Strait near the Sacramento-San Joaquin River Delta, causing pollutants to be pushed from the San Francisco Bay Area Basin into the SVAB and the Capay Valley. Vertical mixing of air pollutants is often limited by temperature inversions, which can cause pollutants to linger.

The Federal Clean Air Act (CAA) was enacted for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. Basic components of the CAA and its amendments include national ambient air quality standards (NAAQS) for major air pollutants and state implementation plans (SIPs) to ensure these standards are met. Regulation of air pollution is achieved through both the NAAQS and emission limits for individual sources of air pollutants. The EPA is the federal agency responsible for identifying criteria air pollutants (CAPs), establishing NAAQS, and approving and overseeing SIPs as they relate to the CAA.

The EPA regulates six air pollutants for which standards for safe levels of exposure have been set under the CAA: ozone, carbon monoxide, nitrogen dioxide, particulate matter, sulfur dioxide, and lead. These pollutants are called "criteria pollutants." Hazardous and other toxic air pollutants, including mercury, are regulated under the CAA Amendments of 1990. Areas of the country where air pollution levels persistently exceed the NAAQSs may be designated "nonattainment."

Volatile organic compounds (VOCs) are also pollutants of concern, and are regulated as a precursor to ozone. VOCs are created from the combustion of hydrocarbon fuels or organic waste materials. Most hydrocarbons are presumed to be VOCs in the regulatory context, unless otherwise specified by the EPA.

Particulate matter (PM) includes both solid particles and liquid droplets found in air. Particles less than 10 micrometers in diameter (PM_{10}) pose a health concern because they can be inhaled into and accumulate in the respiratory system. Sources of coarse particles include crushing or grinding operations, and dust from paved or unpaved roads.

Dust is a sensitive issue in the area, as wind is generally high, and if too much dust is generated, it affects the availability of sunlight and rainfall for local crops. Agriculture is one of the top industries within Yolo County, and crops that are grown in the county are sensitive to air quality.

Ozone is a highly reactive and unstable gas and is found as an ingredient of smog. It poses a health concern because it is capable of damaging the linings of the respiratory tract. Exposure to levels above the current ambient air quality standard can cause lung inflammation and tissue damage, causing impaired lung functioning. Symptoms of ozone exposure are coughing, chest tightness, shortness of breath, and increased asthma symptoms. The greatest risk is to people who spend large amounts of time outdoors during periods of heavy smog. Elevated ozone can also damage rubber, plastics, and fabrics, and reduce crop yields. Ozone forms in the atmosphere from chemicals, such as hydrocarbon and nitrogen oxide, emitted from vehicles, industrial plants, and other sources.

The EPA is responsible for ensuring that air quality protects public health and welfare. Under the EPA's General Conformity Rule, Federal agencies are required to prepare a written conformity analysis and determination for proposed activities where the total of direct and indirect emissions of a non-attainment or maintenance criteria pollutant caused by the activity will exceed the threshold emission levels specified under the CAA.

The project site is located in an area of the SVAB that is in non-attainment for Ozone and PM_{10} and partial non-attainment for federal $PM_{2.5}$ – 24-hr. To conform to the California and EPA regulations, the project must comply with the 2007 South Coast Air Quality Management Plan. Permits will also need to be obtained from YSCAQMD for equipment on site such as emergency generator and boiler.

3.2 Water Resources

3.2.1 Groundwater

The Safe Drinking Water Act (SDWA) was enacted to protect the quality of drinking water in the United States (Scorecard 2008). Primary drinking water regulations established legally enforceable levels for contaminants that can affect people's health. Maximum Contaminant Levels (MCLs) were set to be as close as possible to the level that is known to have adverse health effects. Secondary drinking water regulations are non-enforceable guidelines regulating contaminants that can cause cosmetic or aesthetic effects.

The potable water demand for the YRTC is estimated to be, 43,105 liters per day (LPD). This equates to approximately 8 gallons per minute (gpm) or 13 acre-foot per year (ac-ft/yr). Water in the area is generally extracted from Deep (500 to 1250 feet below sea level) and Shallow/Intermediate (105 feet above sea level (ground surface) to 500 feet below sea level) aquifers. Wells in the Deep Aquifer can yield up to several thousand gpm and produce water of generally good quality. The Deep Aquifer wells are generally constructed for municipal drinking water supply in the City of Davis and on the University of California at Davis campus. Shallow/Intermediate Aquifer wells can yield up to 2,000 gpm, though it is of lesser quality. Most of the agricultural and domestic wells in the vicinity of the project area extract water from this shallow/intermediate aquifer.

A preliminary groundwater feasibility study suggests groundwater in the project area can be developed for domestic supply for the proposed facility from either the Deep or Shallow/Intermediate Aquifers (Appendix A). Available groundwater resources should meet the facility demands for domestic use, fire flow, and irrigation. The following are recommended actions based on the feasibility study to ensure the water supply is sufficient and of good quality:

- Conduct exploration drilling and well monitoring to gather site specific lithologic, water level, and water quality data (to depth of 800 feet).
- Conduct water quality sampling from the monitoring wells to include constituents of concern identified in the 2002 and 2004 environmental site assessments.
- Construct a shallow monitoring well to be screened above the production zones to detect presence of contaminates in the shallow subsurface.

3.2.2 Stormwater

The CWA Section 402 protects surface waters through stormwater permitting. This process includes the NPDES Construction General Permit (CGP), Notice of Intent (NOI) and implementation of a Stormwater Pollution Prevention Plan (SWPPP) during construction.

During construction, the contractor would be responsible for preparing and implementing a SWPPP and maintaining stormwater Best Management Practices (BMPs) to prevent the discharge of sediment from the site.

3.2.3 Sole Source Aquifer

The EPA's Sole Source Aquifer (SSA) Program, established in 1977 under the SWDA, requires evaluation of projects to determine if they have the potential to contaminate a sole source aquifer. The nearest sole source aquifer is located approximately 149 miles (250 kilometers) southeast of the project site.

3.3 Land Resources

3.3.1 Topography

The project is located on a flat floodplain near the Sacramento River Delta (Photo 3-1). The area's elevation within 1.5 miles (2.4 kilometers) of the site ranges between 90 and 100 feet above sea level.

3.3.2 Soils

There are two mapped soil series on the site of the YRTC (Figure 3-1):

- Ca – Capay silt clay – This soil, which is found on basin floors from 10 to 300 feet above mean sea level, consists of silt clay to a depth of 64 inches. Parent material is described as alluvium derived from sedimentary rock. It is found on slopes from 0 to 1 percent and is moderately well drained. Considered prime farmland if irrigated.

Photo 3-1 Existing Site

- TaA – Tehama loam – This soil, which is found on alluvial fans from 50 to 580 feet above mean sea level, consists of loam, clay loam, gravely loam, and sandy loam layers to a depth of 73 inches. Parent material is described as mixed fine-loamy alluvium derived from sedimentary rock. It is found on slopes from 0 to 2 percent and is well drained. Considered prime farmland if irrigated.

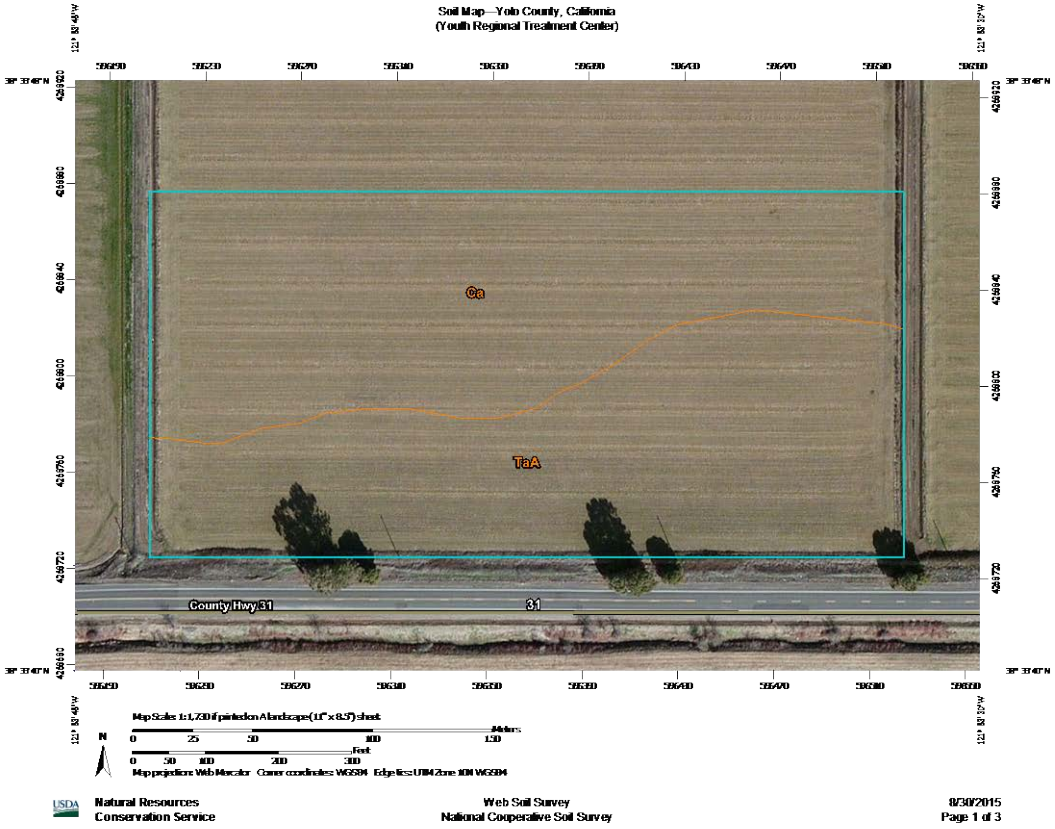

Figure 3-1 Soil Map

A detailed geotechnical study would be prepared during the planning and engineering phase of the project.

3.3.3 Seismic Conditions

The project site, located in Northern California, is in an area of low seismic activity. The site is not located within a State of California Alquist-Priolo active fault zone. There are two known faults in Yolo County, the Hunting Creek Fault and the Dunnigan Hills Fault, as shown in Figure 3-2. The Dunnigan Hills Fault is not active and the Hunting Creek Fault is located within a sparsely populated area of the county. While Yolo County has a low probability for earthquake hazards compared to the rest of California, it is subject to seismic activity both within and near

the County and thus, there is a risk of damage to structures and property as a result (Yolo County 2012).

The Hunting Creek Fault is located in the far northwestern portion of the County, which is the only fault in the County subject to surface rupture. As shown on Figure 3-2, only a small portion of the fault lies within Yolo County, and is in an area that is sparsely populated and not planned for any growth or development other than individual farm dwellings that might be built in the future. Development near a fault subject to surface rupture is regulated by the Alquist-Priolo Act. The Act requires a detailed fault-rupture hazard investigation and prohibits development directly over any traces of the active fault line.

The other active or potentially active fault is the Dunnigan Hills Fault located north of the project site, which extends west of Interstate 5 between the town of Dunnigan and northwest of the town of Yolo. This fault has been active in the last 10,000 years, but has not been active in historic times. In addition to the Hunting Creek and Dunnigan Hills faults, major faults in the Coast Ranges and in the Sierra Nevada foothills are capable of producing groundshaking that could affect Yolo County residents.

The effects of groundshaking during a maximum intensity earthquake is likely to involve structural damage to stucco, masonry walls and chimneys, which could expose people to falling objects and possible building collapse. The degree of such hazards is controlled by the nature of the underlying soil and rock materials, the magnitude of and distance from the quake, the duration of ground motion and the structural characteristics of the building.

Based on the earthquake shaking potential for Yolo County, the proximity to the Bay Area and the history of shaking the probability of damaging seismic ground shaking in Yolo County and its jurisdictions is Occasional: Between 1 percent and 10 percent chance of occurrence in the next year or has a recurrence interval of 11 to 100 years (Yolo County 2012).

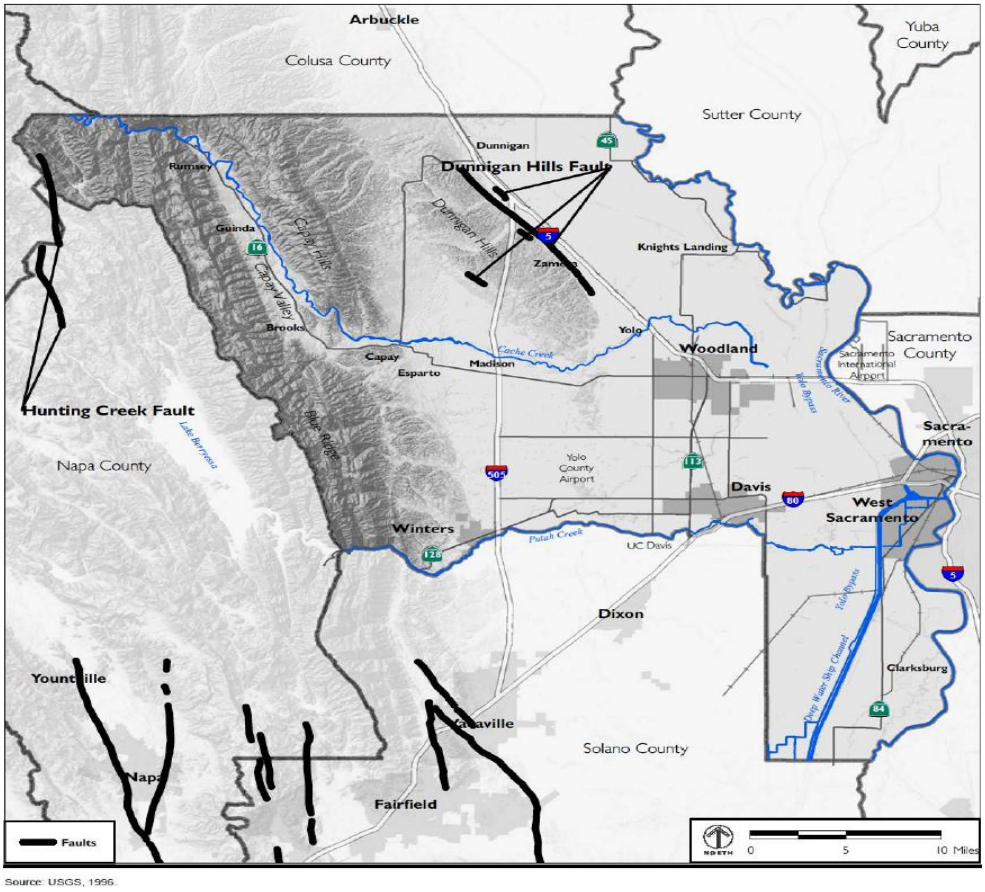

Figure 3-2 Fault zones in Yolo County

3.3.4 Prime Farmland

The following descriptions of planted acreages are based on 2007 data for the unincorporated County. Dry pasture (primarily grazed annual grassland) was the dominant agricultural land use in the County, occurring mainly in the foothills along the western edge of the Central Valley and the Dunnigan Hills (Yolo County 2009). Non-native grasses and forbs dominate these dry pasture areas and include nonnative wild oats (*Avena spp.*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), barleys (*Hordeum spp.*), and nonnative forbs. Dry pasture is used primarily to graze livestock.

Nearly all of the irrigated cropland acreage is found on the valley floor east of the inner north Coast Ranges extending into the southeast panhandle. The majority of the irrigated cropland acreage included six crop types: alfalfa, tomatoes, rice, wheat, orchards, and sunflower. Rice fields occur primarily along the eastern portion of the County near the Sacramento River. This habitat supports rice during the growing months and open water during the flooding stage.

The remaining agricultural land use was comprised of a wide variety of field and vegetable crop types, vineyards, seed crops, nursery products, and irrigated pasture. Vineyards are located in the three main viticulture areas of the County – Capay Valley, Dunnigan Hills, and Clarksburg. The majority of the vineyard acreage is found in the Clarksburg area (11,000 acres), followed by the Dunnigan Hills (3,000 acres), and the Capay Valley which has the least acreage planted in vines (25 acres) (Yolo County 2009).

The soils on the project site have been mapped by the NRCS, and the entire area is classified as prime farmland if irrigated (Figure 3-3). The site had been leased out by the federal government to be farmed continuously for almost 30 years. In accordance with the Farmland Protection Policy Act (FPPA), Federal Agencies are required to assess the impact their project will have on farmland. The site is rated using form AD-1006, Farmland Conversion Impact Rating, which considers the amount of prime farmland on the site compared to the amount of prime farmland in the area and in the county, and the impact converting the site's farmland would have on local farm support services and continuance of local farms, and the compatibility of the project with agricultural use. If the score exceeds the recommended allowable level, the agency can use the score to consider alternative sites if they are available. The form was submitted to the United States Department of Agriculture (USDA), National Resources Conservation Service (NRCS) for their review and concurrence.

The total site assessed points, evaluated and approved by the USDA, is 132. No further studies are necessary as the score is below the 160 points that would trigger further analysis.

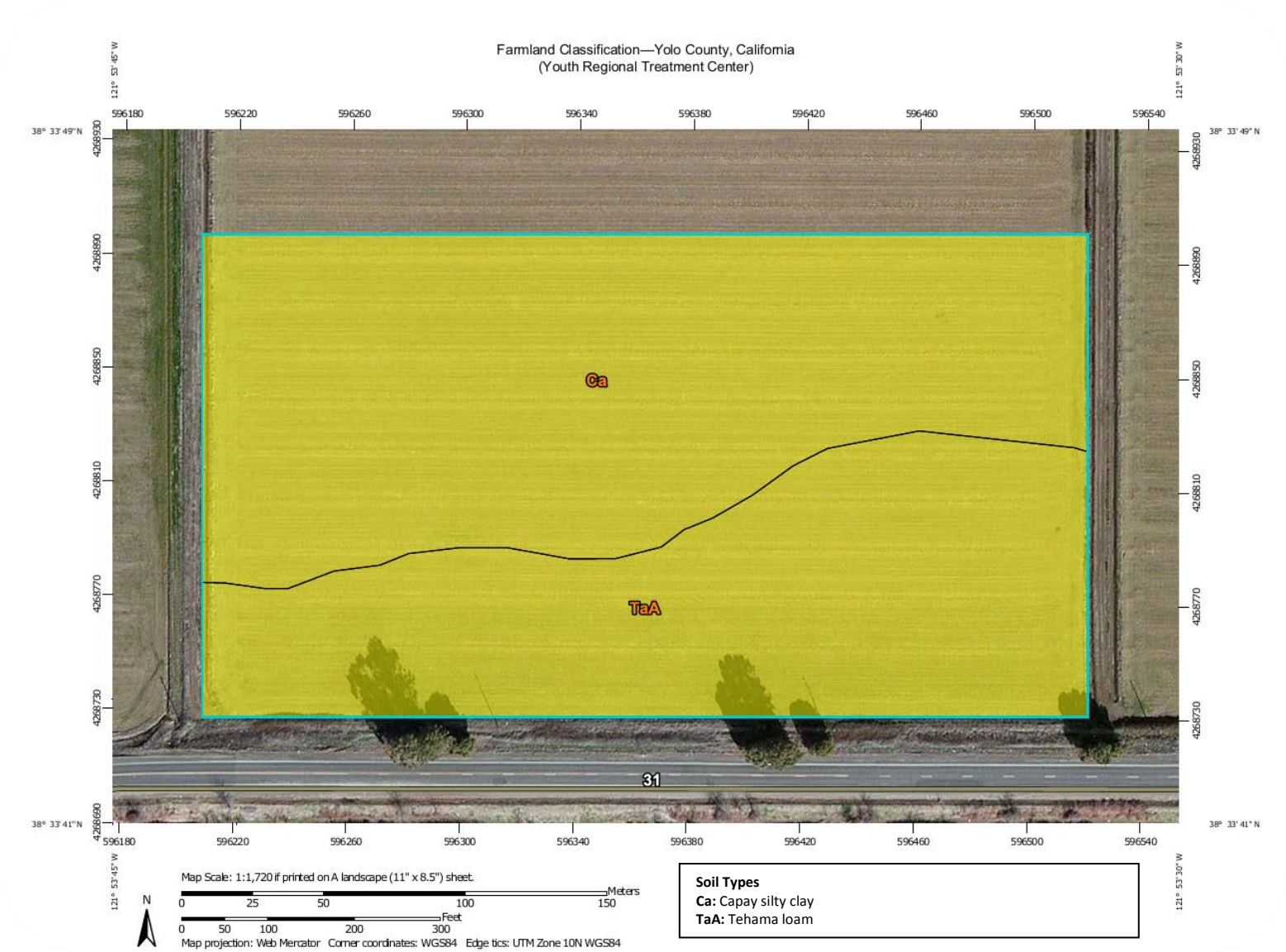

Figure 3-3 Prime Farmland Map

3.3.5 Floodplain

A preliminary review of potential flooding on the project site was conducted utilizing Federal Emergency Management Agency (FEMA) maps, existing drainage studies, aerial photographs, USGS mapping, and a site visit. Flood Insurance Rate Map (FIRM) Map 06113C0575G indicates that the northern portion of the project site lies within Zone A, susceptible to the 100-year flood, but no base flood elevation determined.

Three previously completed drainage reports for the area were reviewed:

- Investigation of Flood Problems, Chickahominy-Moody Slough Watershed, Yolo County, California, by the Soil Conservation Service. (SCS 1982).
- Willow Slough Watershed Integrated Resource Management Plan by Jones & Stokes Associates, Inc. (JAS 1996).
- Putah Creek/Dry Creek Subbasins Drainage Report. Prepared for the City of Winters, California, by Wood Rodgers. (Wood Rodgers 2005).

The USGS Quads Winters and Merritt were reviewed for locations of waterways and irrigation canals, and compared to Google Earth aerial photography. Personal communication was also made with Mr. Duane Chamberlain, who has farmed the project site and adjoining fields for over 30 years.

The drainage studies and anecdotal information indicate that the project site floods to a depth of at least one foot every two to three years (a three year storm). CR 31 east of the site and near the driveway to DQ University floods and is closed to the same frequency. The roadway adjacent to the project site is approximately 4 feet above existing ground on the site, and reportedly does not flood.

Flooding of the area is caused by runoff from the mountain range located 5 miles (8 kilometers) to the west. The creeks and canals that collect the runoff are assumed to be undersized and overtop during storms with as low frequency as three years. The fields at the base of the mountains and extending east experience sheet flooding to various depths.

In order to more closely estimate the base flood elevation on the site for Finished Floor Elevation estimation purposes, Wood Rodgers, Inc. was requested to perform an hydraulic analysis on the project site for the 100-year event. The analysis, although preliminary in terms of hydrology and floodplain model development, characterized the extent and depth of existing conditions, to include flooding from internal drainage and impacts from out-of-bank flooding from various

local streams, including Dry Slough, Upper Chickahominy Slough, and Chickahominy Slough (Photo 3-2) (Wood Rodgers, 2012).

The basis for performing the hydraulic impact analysis included hydrology, hydraulic modeling tools, basic data and assumptions. For Hydraulic Modeling, Wood Rodgers utilized a preliminary FLO-2D two-dimensional hydraulic model currently being developed by Wood Rodgers on behalf of the State of California Department of Water Resources (DWR) Central Valley Floodplain Evaluation and Delineation Program (CVFED). The hydrology developed in 1992 by Borcalli & Associates, on behalf of the Yolo County Flood Control and Water Conservation District (YCFCWCD) for the Covell Drainage System Comprehensive Master Plan, was used for analyzing the 100-year event. The precipitation data was updated by Wood Rodgers, Inc. and documented in work that was completed for the floodSAFE Yolo Pilot Program entitled "Yolo County City/County Drainage Manual, February 2010." For Terrain and Survey Data, DWR, through its CVFED Program, captured and processed high-resolution LiDAR data in 2008. This information was utilized as the basis for the terrain input in the hydraulic model.

The existing conditions model results for the 100-year floodplain base flood elevations in the vicinity of the project site are shown on Figure 3-4. The existing conditions for the 100-year floodplain depths in the vicinity of the project site are shown on Figure 3-5. Based upon the modeling, the base flood elevations on the site are estimated to be between approximately 104.5 and 105.7 feet (NAVD 1988), with an estimated depth above existing ground during the 100-year flood of 0.0 to 1.0 feet.

It is highly recommended that a detailed drainage study be prepared during the design phase in order to determine a Finished Floor Elevation that will remove the facility from the 100-year flood, while avoiding any adverse flood impact to adjacent property.

Photo 3-2 Chickahominy Slough located south of CR 31

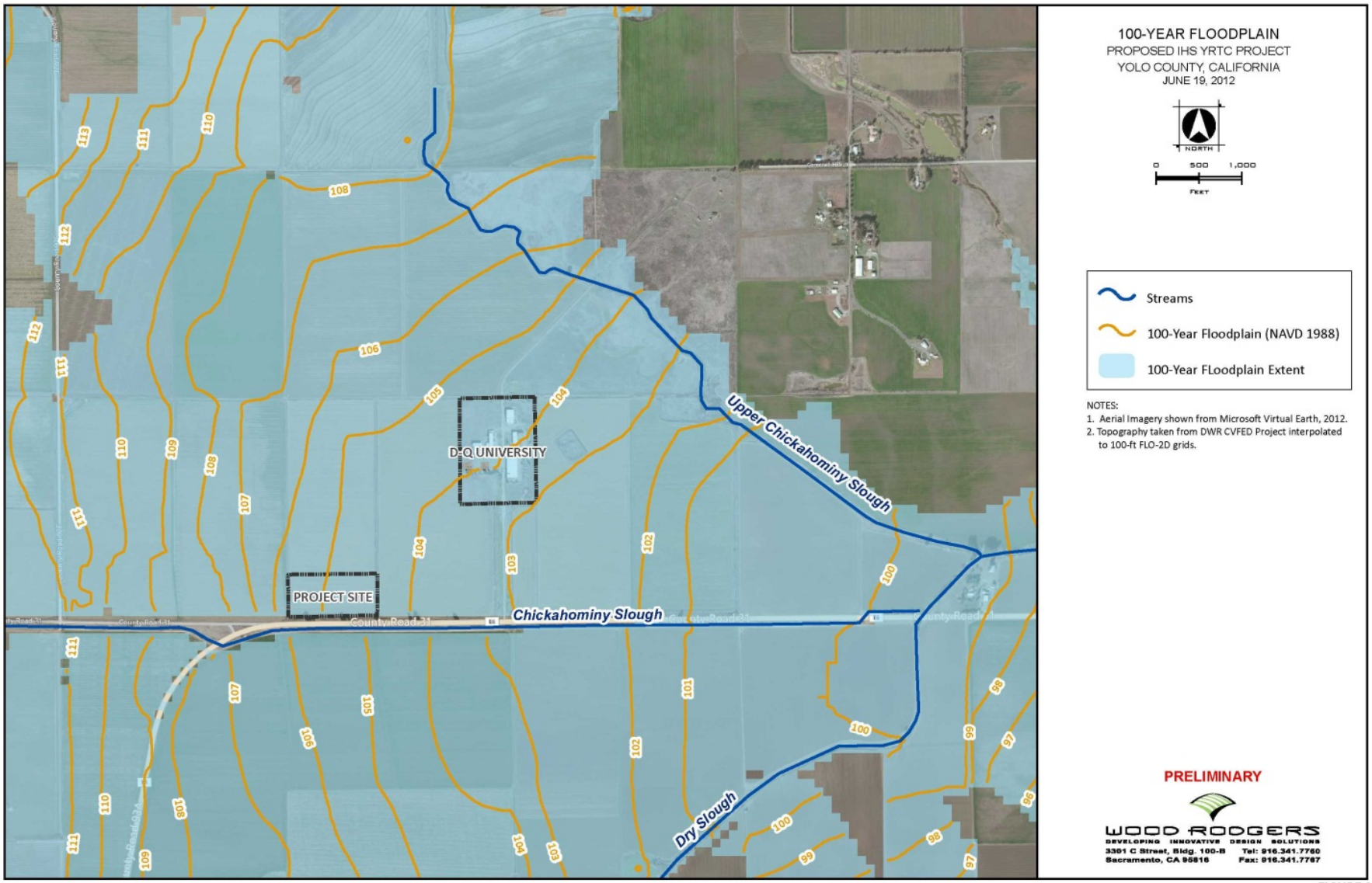

Figure 3-4 100-Year Floodplain Map

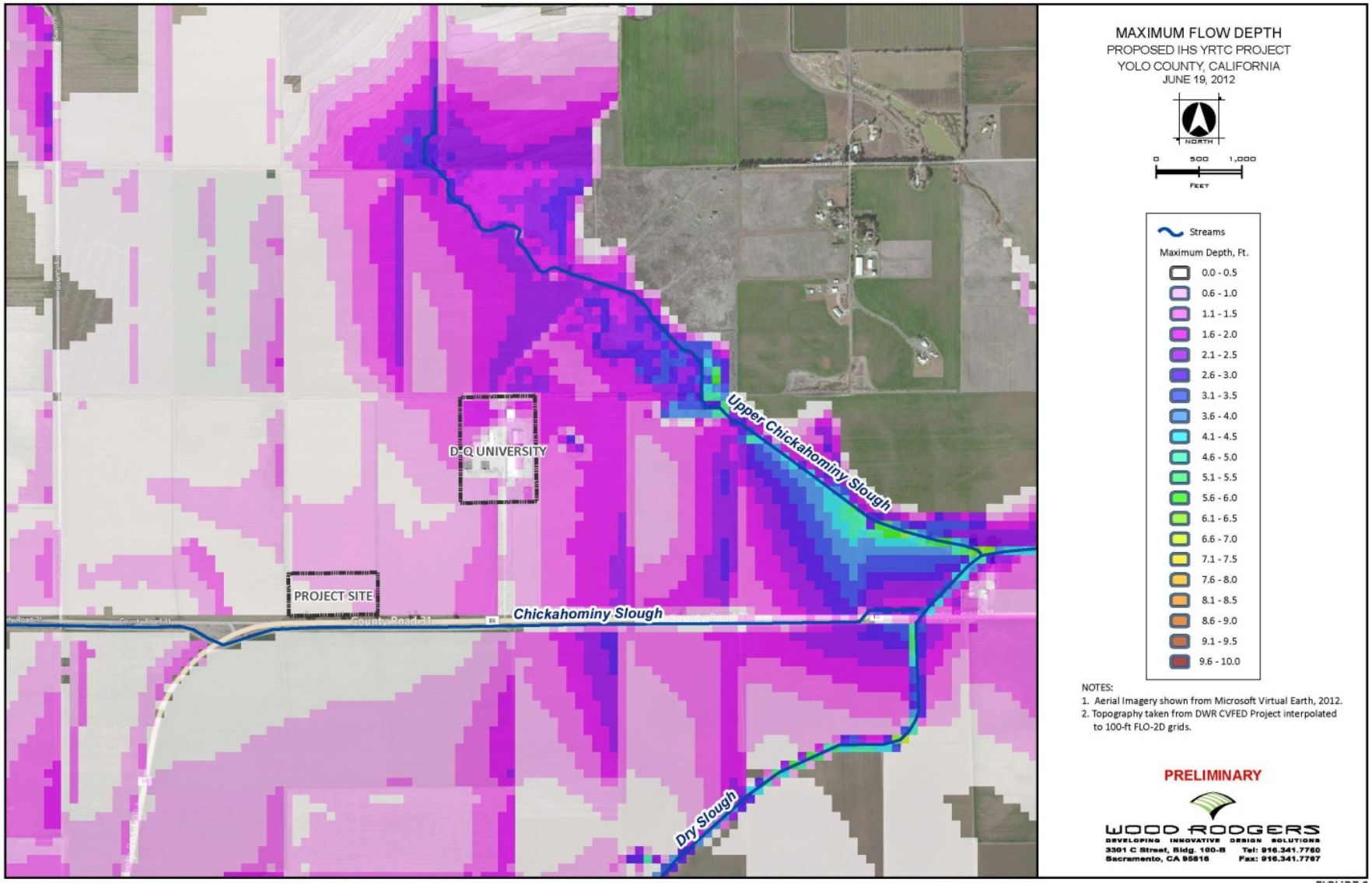

Figure 3-5 Maximum Flow Depth Map

3.4 Cultural and Historical Resources

Logan Simpson Design (LSD) conducted a Class I cultural resource review using the California Historical Resources Information System (CHRIS) to determine whether the 4.86 ha (12-acre) parcel of former military reserve had been previously surveyed, and if any cultural resources had been previously recorded on the site. The LSD research indicates that there are no properties eligible for listing on the National Register of Historic Places (NRHP), or other historic resources in the project area and vicinity (Appendix B).

The entirety of the DQ University property was previously surveyed by the NPS Interagency Archaeological Services Division and the findings are reported in *"An Archaeological Field Inspection of the Proposed Yolo County land Sale, Yolo County, California"* (Jameson 1991). This survey covered 100 percent of the property that includes the proposed 4.86 ha (12-acre) site for the YRTC.

Pursuant to 36 CFR Part 800 (as amended 8-05-04), IHS/CAO initiated section 106 consultation with the SHPO seeking concurrence that no historic properties would be affected by the proposed project and that no further cultural surveys would be required. SHPO concurred on August 10, 2015 (Appendix C).

3.5 Biological Resources

Yolo County encompasses a portion of the Sacramento Valley and the eastern edge of the Inner North Coast Ranges. These subregions vary in topography, climate, and plant communities. The eastern and southern portions of the County are located on the relatively level valley floor. The north-central County encompasses the Dunnigan Hills, and the western portion rises into the Blue Ridge and Rocky Ridge of the inner north Coast Ranges. The Capay Valley lies between Blue Ridge and the Capay Hills. Little Blue Ridge, which has some of the highest elevations in the County, is in the northwestern corner of the County.

Yolo County has a Mediterranean climate characterized by hot, dry summers and temperate, wet winters. However, the County comprises two distinct climate zones. The northern and central areas of Yolo County experience hot summers and moderately cold winters, while the southeastern County receives marine air influence from the San Joaquin-Sacramento Delta regions to the south that reduces the temperature extremes of the valley. During the summer, temperatures generally average a high of 95º F and a low in the mid-50s. Winter temperatures average a high in the 50s, and low of 38 to 40º F. Average annual precipitation ranges from 17 inches in the northeast to 34 inches along the western part of the County. In spite of these distinctions, the biological communities in Yolo County are distributed primarily based on the location of water resources and agricultural development (Yolo County 2009).

Natural lands in Yolo County account for only approximately 21 percent of the unincorporated area of the County (Yolo County 2012). These lands include native oak woodlands, prairie grasslands, and chaparral communities in the western mountains and foothills, riparian woodlands, native and restored wetland communities, and remnant valley oak groves and valley oak trees on the valley floor.

Plant communities in Yolo County became greatly altered beginning in the mid-1800s as the area was developed for agriculture, including growing crops and raising livestock. Water diversions from area streams were used to expand crop production, and grasslands were converted to agricultural use. Urban growth, dam construction, and highway construction in the 1950s further altered natural communities, particularly in stream and riparian, wetland, and grassland communities (Yolo County 2009). The distribution of plant communities in the County is closely associated with topography and hydrology. Much of the flat valley area in the eastern and central-eastern area of the County supports agricultural communities, the hilly western and central-western portions of the County support most of the remaining grassland and woodland communities, and stream corridors support riparian communities. The urban/built-up areas are concentrated in the flatter, eastern portion of the County.

Agricultural lands occur throughout Yolo County and are concentrated in the flatter eastern and central portions of the County and in the Capay Valley. Although the majority of the lands designated as agricultural lands are in intensive agriculture, about 30 percent of the designated agricultural lands support other plant communities including wetlands, riparian, oak woodland/chaparral, and grasslands. As a plant community (e.g., intensive agriculture of row crops, orchards, vineyards), agricultural lands cover about 385,676 acres of the unincorporated County (Yolo County 2009). As a land use designation, agricultural lands cover 544,723 acres within the unincorporated County. In 2007, approximately 70 percent of the unincorporated county was under active cultivation. In 2007, approximately 463,762 acres were used for various agricultural crops. Agricultural lands within the County include a mix of large-scale and small-scale farms as well as livestock operations. This habitat type is the most abundant habitat type in Yolo County (Yolo County 2009).

Nearly all lands within 3.1 miles (5 kilometers) surrounding the project site have been converted to agricultural use. A few pockets of natural vegetation and habitat may be interspersed in the area, but the nearest unaltered natural areas are located approximately 7.5 miles (12 kilometers) west of the site on the foothills of the mountain ranges. There are no wetlands or streams on the project site; however, Chickahominy Slough is located south of CR 31, but this water course functions much like a roadside ditch.

3.5.1 Threatened, Endangered, and State-Special Status Species

Special Status Species are those plant or animal species considered sufficiently rare, threatened, or significant to be included on lists kept by the U.S. Fish and Wildlife Service (USFWS), or the California Department of Fish and Game (CDFG). A list of these special status species in Yolo County was obtained from the CDFG's Natural Diversity Database (CNDD) in 2012 as part of the original constraints analysis for the project site (Appendix A). DOWL updated the CNDD information in 2015.

The project site was assessed for the presence of listed species and their habitats. A list was compiled of state rare plants according to the California Native Plant Society (CNPS) in the USGS Winters Quad and the surrounding 8 Quads (Table 3-1). Of the 11 CNPS plants listed as rare in the 9 Quads, one was listed for Winters Quad (round-leaved filaree) and three exist in habitats, which are not on the site. The round-leaved filaree was recorded from within 2 miles of the project site in 1955, and has the potential to occur in the area. Consultation with CNPS indicates that the site should be surveyed for this plant and the others listed in the 9 Quads, according to CNPS Botanical Survey Guidelines (Appendix A). Guidelines require the surveys be done at the time of year when the plants are evident and identifiable. These times are noted in (Survey Month).

A list was also compiled of the federal and state listed species of plants and animals for the Winters Quad, which includes and surrounds the project site (CNDDB, 2015). Fifteen species of plants and animals are listed in the California Natural Diversity Database (CNDDB) as being federally or state listed (Table 3-2). Two species have a federal listing of threatened, one has a state listing of threatened, three are state species of special concern, and two are on the CNPS rare plant list.

Consultation with the California Department of Fish and Game (DFG) indicated that the state threatened Swainson's hawks are known to nest in the area, and a map of recorded nests was provided (Appendix A). A Phase I Environmental Site Assessment of the DQ University prepared in January 2004 indicates that twelve burrowing owls were nesting in proximity to the University grounds.

The USFWS Critical Habitat Mapper was also reviewed for the presence of Critical Habitat on or adjacent to the site. The nearest critical habitat is 12 miles to the east for steelhead, Chinook salmon, and delta smelt.

Field surveys were conducted at the site on May 23 and 24, 2012. The site was walked systematically and all plants identified, when possible, to genus and species. Those plants that could not be identified to species due to lack of distinguishing characteristics were compared to descriptions and photographs of the listed species. Based on habitat, and other characteristics,

each plant was analyzed to ensure it was not a listed species. Additionally, 5 person-hours were spent surveying for Swainson's hawks and nests near the site and within 0.5 miles of the site. Potential nest locations were surveyed between 6:30 am and 10 am, and other trees were surveyed for presence of nests and hawk activity.

Table 3-1 Plants listed by CNPS in 9 Quads centered on Winters Quad

SCIENTIFIC NAME	COMMON NAME	CNPS LIST	HABITAT	SURVEY REC'D*	SURVEY MONTH**
California macrophylla	Round-leaved filaree	1B.1	Grassland, woodland	Y	APR
Navarretia leucocephala ssp. bakeri	Baker's navarretia	1B.1	Vernal pools	N	
Sidalcea keckii	Keck's checkerbloom	1B.1	Grassland, woodland	Y	MAY
Astragalus tener var. tener	alkali milk-vetch	1B.2	Vernal pools	N	
Atriplex cordulata var. cordulata	heartscale	1B.2	Scrub, grassland, woodland	Y	SEP
Delphinium recurvatum	recurved larkspur	1B.2	Scrub, grassland, woodland	Y	APR
Fritillaria pluriflora	adobe-lily	1B.2	Chaparral, grassland, woodland	Y	MAR
Hesperolinon breweri	Brewer's western flax	1B.2	Chaparral, grassland, woodland	Y	JUN
Layia septentrionalis	Colusa layia	1B.2	Chaparral, grassland, woodland	Y	APR
Leptosiphon jepsonii	Jepson's leptosiphon	1B.2		Y	APR
Downingia pusilla	dwarf downingia	2.2	Vernal pools	N	

* Survey for habitat and species is recommended by CNPS
** Month in which surveys are best conducted based on flowering times

Table 3-2 Federal and State Special Status Species List

SCIENTIFIC NAME	COMMON NAME	FED STATUS*	CA STATUS*	DFG STATUS**	CNPS LIST***	HABITAT	POTENTIAL TO OCCUR ON SITE
FAUNA							
Buteo swainsoni	Swainson's hawk		T			Farmland and grasslands	Y
Athene cunicularia	Burrowing owl			SSC		Grasslands, agricultural fields	Y
Elanus leucurus	White-tailed kite		FP				N
Ardea herodias	Great blue heron						Y
Lasiurus blossevillii	Western red bat			SSC			
Myotis yumanensis	Yuma myotis						
Gonidea angulate	Western ridged mussel						
Emys marmorata	Western pond turtle			SSC		Ponds	N
Branchinecta lynchi	Vernal pool fairy shrimp	T				Vernal pools	N
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	T				Riparian forests. Host plant elderberry	N
FLORA							
California macrophylla	Round-leaved filaree				1B.1	Grassland, foothill woodland	Y
Centromadia parryi spp. Rudis	Parry's rough tarplant				4.2		
Hesperevax caulescens	Hogwallow starfish				4.2		
Malacothamnus helleri					3.3		
Navarretia leucocephala ssp. Bakeri	Baker's navarretia				1B.1	Meadow, vernal pools	N

*T = Threatened
**SSC = Species of Special Concern
***1B.1 = Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California

During the 2012 survey eucalyptus trees within 0.5 miles of the site were surveyed for the presence of Swainson's hawks. A pair of red-tailed hawks were observed foraging over the site and sitting on a nest in a tree along the southern boundary of the site (see Photos 3-3 and 3-4). No nests were observed in other trees adjacent to the site, or in the trees further east along CR 31. One nest was located just outside the 0.25-mile buffer around the site. The tree indicated on the map from the 2012 survey was pruned to below utility line level, and no nests were observed. However, a nest was observed in a tree approximately 100 yards to the west and on the south side of CR 31. A pair of Swainson's hawks was observed perching on the utility line near the nest, and foraging over the fields to the north of the nest (Appendix A).

There were no signs of burrowing owl burrows or the owls themselves during the 2012 survey. Large owl pellets, potentially deposited by a great-horned owl, were located beneath Tree 6 (see map in Appendix A). No owl was observed in the tree, and no nest was observed. All of the fauna observed on the site are listed in Table 3-3.

A follow up site visit was conducted by DOWL biologist Rion Bowers on July 28, 2015 to confirm the findings of the 2012 survey, and in April 2015, Sycamore Environmental Consultants (SEC) conducted a Swainson's hawk survey of the project site to identify nest locations found during the 2012 survey.

The hawk survey conducted in April 2015 identified one Swainson's hawk nest located in a eucalyptus tree on the north side of CR 31, approximately 0.4 miles east of the project site. A male hawk was observed bringing nesting material into the tree and the female was sitting on the nest. In another eucalyptus tree along the south side of the project site, an unoccupied Great horned owl nest was observed. No burrowing owls were observed on the site by the DOWL biologist or SEC biologist in 2015.

Photo 3-3 Red-Tailed Hawk Nest near Project Area

Photo 3-4 Swainson's Hawk Near Project Area

Table 3-3 Fauna observed on site

Scientific name	Common name
Buteo jamaicensis	Red-tailed hawk
Buteo swainsoni	Swainson's hawk
Cathartes aura	Turkey vulture
Tachycineta thalassina	Violet-green swallow
Petrochelidon pyrrhonota	Cliff swallow
Sturnella neglecta	Western meadowlark
Setophaga petechia	Yellow warbler
Mimus polyglottos	Northern mockingbird
Agelaius phoeniceus	Red-winged blackbird
Tyrannus verticalis	Western kingbird
Zenaida macroura	Mourning dove
Molothrus ater	Brown-headed cowbird
Corvus brachyrhynchos	American crow
Nycticorax nycticorax	Black-crowned night heron
Ardea herodias	Great blue heron
Neotoma fuscipes	Dusky-footed woodrat

3.5.2 Invasive and Noxious Weeds

The entire project site is currently irrigated agricultural land that is cultivated for livestock feed grass (Figure 3-1). There are no invasive or noxious species on the site. In accordance with Executive Order 13112 – Invasive Species, Federal Agencies must not carry out actions that may spread invasive species, unless the Agency has made the determination that the benefits of the action outweigh the potential harm caused by invasive species; and that all measures to minimize risk of harm will be taken in conjunction with the actions.

The site has been actively irrigated and cultivated for the past 30 years. The irrigation ditch on the west side of the property is maintained annually when all vegetation is removed and the ditch sides scraped to proper geometry. A line of weedy vegetation borders the site to the east on the west side of the adjoining property's irrigation ditch. Roadside vegetation borders the site to the south. This consists of the species listed in Table 3-4, all of which are non-native and invasive (Calflora, 2012 and 2015). The ditch adjacent to the roadway is within the ROW of CR 31, has not been maintained, and is densely choked with vegetation (Photo 3-5).

Table 3-4 Invasive Plants Observed On or Near the Site

Scientific name	Common name	Native
Cirsium arvense	Canada thistle	N – Invasive
Brassica nigra	Black mustard	N – Invasive
Rubus discolor	Himalayan blackberry	N – Invasive
Eucalyptus globulus	Blue gum	N – Invasive
Rumex crispus	Curly dock	N – Invasive
Rumex acetosella	Sheep sorrel	N – Invasive

Photo 3-5 Roadside Vegetation near the Project Site

3.6 Socioeconomics

The project site is located in an unincorporated, and rural portion of Yolo County. The nearest population centers to the project site are The Cities of Davis and Woodland.

Table 3-5 shows 1990-2009 population estimates for unincorporated Yolo County, the County as a whole, and the state. The 2009 population of unincorporated areas is 23,471, which represents approximately 12 percent of the total population of the County. Establishing the rate of population growth/decline per year from past data provides a perspective on the expected annual change in future population of the region. Over the 19-year period from 1990 to 2009, the population of unincorporated areas grew at a rate of 0.6 percent per year, while population growth in the County as a whole grew at a rate of 2.2 percent per year and population growth in the State was 1.5 percent per year.

Table 3-5 Regional Population

Location	1990	2009	Trend[1]
Unincorporated Yolo County	21,121	23,471	+0.6%
Yolo County	141,210	200,709	+2.2%
California	29,758,213f	38292687	+1.5%

[1]Change Per Year
Source: CDF, 2007

The 2010 United States Census reported that Yolo County had a population of 200,849. The ethnic makeup of Yolo County was 126,883 (63.2 percent) White, 5,208 (2.6 percent) African American, 2,214 (1.1 percent) Native American, 26,052 (13.0 percent) Asian, 910 (0.5 percent) Pacific Islander, 27,882 (13.9 percent) from other races and 11,700 (5.8 percent) from two or

more races. Hispanic or Latino of any race were 60,953 persons (30.3 percent). Although the population of the area is predominantly white, in general the area has a more diverse population with higher populations of AI/AN and lower populations of African Americans when compared to the nation as a whole.

The total population of AI/AN in California is 71,287 according to the Bureau of Indian Affairs (BIA) Labor Force Report (BIA 2013). 25.6 percent of the population is under the age of 16, with 66 percent of the members ranging in age between 16 and 64. 49 percent over the age of 16 are working in civilian jobs. Of those CA tribal members over the age of 16, 18.3 percent were not in the labor force in 2010 (BIA 2013). This is compared to 3.9 percent for the nation in 2000, 7 percent in California. Approximately 18.9 percent of AI/AN families are below poverty level in California.

The median household income from 2009-2013 in Yolo County was $55,918, compared to $61,094 in California.

3.7 Transportation and Access

An assessment was done of potential traffic impacts due to the development of the YRTC at proposed project site (Appendix A). The analysis used existing traffic counts collected in 2007. Based upon the minimal growth in the immediate and surrounding areas, the 2007 traffic counts were considered to be sufficient for the purposes of this study.

Photo 3-6 Approximate Entrance to YRTC from CR 31

The area is served by County roads, which are classified major two-lane county roads. They are paved and approximately 24 to 25 feet wide with 4 foot paved shoulders. The level of service (LOS) based upon the afternoon peak volumes is C for the roadways in the vicinity. Level of service is a measure that characterizes operational conditions within a traffic stream, and the letter designation describes the range of operating conditions. Levels B and C are in the zone of stable traffic flow. Drivers in a LOS B have reasonable freedom to select their speed and lane of operation. Drivers in a LOS C are restricted in this freedom, and speeds and maneuverability are more closely controlled.

An analysis was conducted for the proposed intersection of the facility's access drive with CR 31. A custom trip generation was prepared, and resulted in 180 trips per day. The LOS calculated for this intersection was B before and after the project is complete, and the mainline traffic on CR 31 would essentially be unaffected. Analysis of the need for dedicated left and right turn lanes indicated that neither would be required. Review of the proposed driveway access location indicates that the spacing from the existing DQ University drive is sufficient to meet Yolo County standards. Preliminary sight distance evaluation performed at the proposed access point for a design speed of 55 miles per hour (mph) as posted on CR 31 indicates that the access point meets California Department of Transportation (Caltrans) requirements. Trimming of existing non-native eucalyptus trees along CR 31 may be needed to ensure the 500-foot minimum sight distance is obtained. Review of accident data in the vicinity indicates that there are a low to moderate number of accidents and that the small amount of traffic generated by the project is not anticipated to create any significant rise in accidents.

Additionally, the Yolo County Transportation District (YCTD) operates a bus system along CR 31. It may be possible to request an additional transit stop at the future facility.

3.8 Land Use

The site is currently irrigated agricultural land that has been cultivated for approximately 30 years. Adjacent uses include a Tribal university campus and agricultural uses. This area is in a rural setting and very little residential development is located in the immediate area. The nearest metropolitan areas are the city of Davis approximately 5.25 miles (8.5 kilometers) to the east and Woodland approximately 7.3 miles (11.5 kilometers) to the northeast.

Land use in the project area is regulated by Yolo County. The project site is currently designated Quasi-Public land in 2030 Countywide General Plan (2009). The General Plan notes that governmental uses are allowed in rural residential areas.

The project site is owned by the federal government and, thus is not subject to local land use plans or zoning requirements. However, the IHS/CAO would work with elected county officials and the community to design the project to correspond to local land use policies to the maximum extent practicable.

3.9 Utilities and Public Service

3.9.1 Utilities

Utilities that would likely be required for the YRTC include electricity, natural gas, communications lines and cellular service, sewer and potable water.

Pacific Gas and Electric currently provides electrical services to the to the project area. There is an electrical distribution line near the southern property line. The system connection may need to be upgraded if there is not sufficient capacity. Pacific Gas and Electric may also provide natural gas services to the project area.

Various companies provide telephone and communication service to the area. Since cable is not offered in the area, a satellite or cellular service would be required for television.

Potable water would be supplied via an onsite production and sewage and wastewater would be treated through an onsite sewage treatment system.

3.9.2 Public Services

Public services, such as law enforcement, emergency medical service, and fire suppression are available from the County and nearby local municipalities of Davis and Woodland. The Yolo County Sheriff's Office enforces law and serves and protects all citizens and visitors. The Sheriff's office is located in Woodland approximately, 20 miles (32 kilometers) north of the project site. Emergency medical services are available from a number of providers in nearby metropolitan areas including Sutter Davis Hospital in Davis approximately 6.6 miles (12.9 kilometers) from the project site. The West Plainfield Fire Department responds to fire emergencies and provides fire suppression in the project area. The fire station is at 24901 County Road RD 95 in Davis, approximately 3 miles (8.4 kilometers) northeast of the proposed facility. There are no fire hydrants near the proposed facility.

3.10 Noise

Noise is often defined as unwanted sound. The human ear can detect a wide range of sounds, but typically has reduced sensitivity to those of very low or very high pitch. Sound intensity is measured in decibels. Because the decibel (dB) scale does not accurately reflect the sound exposure levels heard by a human listener, a weighted scale (dBA) is used. This sound level scale is progressively reduced in sensitivity to very low and very high-pitched sounds, and therefore, mimics a human's sense of hearing. Normal speech has a sound level of approximately 60 dBA. Sound levels above about 120 dBA begin to be felt inside the human ear as discomfort, and eventually pain at still higher levels (IHS 2006).

County Road 31 from the intersection of County Road 93 to County Road 95 carries vehicular traffic from Davis, with a measured ADT (Average Daily Traffic) of 3,900 trips (Yolo County 2009).

The surrounding area is rural with a mix of single-family residences and small farms. Although there are no figures for ambient sound levels in the area, noise levels associated with neighboring activities and traffic in the vicinity of the highway can be assumed to be a low. Anecdotal evidence from the homeowner indicates that the area is quiet and peaceful.

3.11 Hazardous Material and Solid Management

As part of the initial due diligence process to locate a suitable site for the YRTC, DOWL conducted a regulatory database search and review of previously prepared environmental reports and historical documents regarding the past use of the project site and the potential for contamination due to the release of hazardous materials onto the site. This information is summarized in the *Northern California YRTC Constraints Report* that is provided in Appendix A. The EDR Radius Map Report indicates that the DQ University site adjacent to the subject property is listed on the HAZNET, FINDS, UST, HIST CORTESE, MCS, and ENVIROSTOR databases.

The DQ University campus that is adjacent to the subject property was developed by the United States Department of the Army and used for the Sacramento Valley Radio Transmitter Station that operated from 1952 until 1970 when the property was vacated and disposed of as surplus property. DQ University purchased the property in 1971 and currently maintains the campus, which provides higher education services. Facilities described on the DQ University Campus at the time of acquisition from the Army include a communications building, barracks, storehouses, water pump plants, two incinerators, utilities, six underground storage tanks (USTs), twenty-two transformers, two wastewater oxidation lagoons, two cooling water injection wells, and one water supply well.

The database report indicates the following concerning the DQ University Campus:

- A variety of hazardous wastes including asbestos containing materials, oil-containing waste, alkaline solution and other organic and inorganic solid waste were transported from the DQ property and disposed.

- Six USTs for gasoline and diesel fuel were removed.

- The site is listed as a Military Cleanup Site by the Central Valley Regional Water Quality Control Board. The issues associated with the DQ University site include contaminated soil, potential contamination of ground water by TCE, PCB, and petroleum hydrocarbons.

- Sampling in 2006 indicates TCE in monitoring well DQ-GW-601 was 1100 microgram per liter (ug/L) and the highest concentration of TPH-Diesel in DQ-GW-602 was 8000 ug/L.

The Phase I Environmental Site Assessment (ESA) report for the DQ University Campus that was completed by the United States Army Corps of Engineers in 2004 indicates that six USTs were removed, and that additional sampling and testing was recommended on the campus property. No other areas, including the subject property were referenced in the report. The recommended testing has not been completed, based upon documentation compiled for this report.

The subject property consists of a 4.86 ha (12-acre) parcel of agricultural land adjacent to and southwest of the current DQ University campus. This parcel is subdivided from the original 651.55 acre DQ University property. Historical aerial photographs and topographic maps spanning nearly 50 years from 1937 to 2006 depict the subject property as agricultural fields. The DQ university campus buildings and associated infrastructure are the only improvements nearby and the surrounding land use is primarily dry land and irrigated farming.

In summary, no hazards or hazardous materials were identified for the project site in the current EDR report or any of the past environmental reports. However, groundwater contamination may be present in the local aquifer from past activities on the DQ University site. Investigation as to the presence, location, and migration direction of any groundwater contamination plume should be conducted to ensure protection of groundwater accessed for domestic use at the YRTC. A site visit was made in July 2015, and no hazardous materials were observed on the site. Care should be taken during well drilling and groundwater exploration and when designing the well water treatment system, to ensure the water quality is suitable for domestic use. A variety of treatment options are available to ensure quality drinking water is available for the project.

Solid waste generated from the existing facility is subject to all applicable state and federal environmental protection laws governing waste. Solid waste and recycling services in the project area and unincorporated Yolo County are provided by Waste Management of Davis California. Garbage collection, cardboard, office paper, green waste, and mixed recycling is also available to commercial establishments in Yolo County. The YRTC would be required to contract with Waste Management for the solid waste removal recycling including during the construction and operation phases. Waste Management also offers recycling services for items such as batteries and fluorescent lamps.

3.12 Visual Resources

Photo 3-7 View of Existing Property from Road

Visual resources in the area are limited to the view of the existing property from the road and neighboring property (Photo 3-7). Several eucalyptus trees are located along the north side of CR 31; however, the surrounding lands, in all compass directions, consist of irrigated or fallow agricultural fields. The DQ University campus contains the nearest built structures, that are set approximately 490 meters (1,710 feet) north of CR 31. Including the DQ University buildings, there are only six residences or farm-related structures within 1.2 miles (2 kilometers) of the proposed project site.

3.13 Waste Water Treatment

Wastewater discharge for the YRTC was established in the Phase I SSER, December 2008 Amendment (IHS 2008). Total water use at the facility is estimated at 41,105 LPD with sewage disposal estimated at 80 percent of the water supply. The estimated sewage disposal volume (Daily Design Flow) is 34,484 LPD (9,110 gallons per day [gpd]).

The California Plumbing Code (CPC): CPC (Title 24 California Code of Regulations) identifies minimum standards for the design and installation of safe and sanitary plumbing systems and the Yolo County Department of Health (YCDH) issues permits for installation of septic systems in Yolo County. Yolo County has published "Guidelines for the Planning, Installation, and Maintenance of Septic Systems" which provides guidelines and information concerning design and permitting. Although the IHS is not subject to building ordinances of local political jurisdictions and is not required to obtain permits from the YCDH for installation of septic systems, this site evaluation follows the guidelines.

Disposal of wastewater is typically addressed through a piped connection to a public sanitary sewer collection system and treated at a regional wastewater treatment facility. The proposed YRTC site does not have access to a public sewer collection system and on-site treatment and disposal will be required. The typical on-site system consists of a septic tank which provides treatment of the raw sewage and a leach field which disburses effluent from the septic tank by means of percolation into the underlying soils.

The primary function of the septic tank is to separate all solid and semi-solid materials from the sewage flow and pass the effluent on to the leach field. Septic tanks are sized at two times the Daily Design Flow. A total tank volume of 18,000 gallons would be required at the YRTC site. 3,000 gallon tanks could be installed in two rows of six tanks (battery tanks) to provide the required storage/treatment capacity. The tank area would measure 20 feet wide by 50 feet long and can be located under paved areas as long as the tank and access ports are designed to support vehicular loads. A more detailed assessment and design of the wastewater system will be completed during design of this project.

The function of the leach field is to biologically and physically treat the liquid sewage within the subsurface soil environment. This treated water then returns to the environment via percolation into the soil, evaporation or transpiration. Design of the leach field is largely based on the site soils ability to receive fluids through percolation, i.e. permeability. According to the NRCS, soils in the area of the proposed site have slow permeability, which poses constraints on septic tank absorption fields. Water moves slowly in these soils, increasing the potential that absorption fields will fail. However, the limitations can be overcome by increasing the size of the absorption field or by using coarser backfill material. Furthermore, the Soil Survey data available for the area extends only to a depth of 5 feet; placing the leach lines in deeper, more permeable strata may also be possible.

The permeability of soil near the site is approximately 0.6-inch in one hour based on information from the NRCS. This translates to a percolation rate of 100 minutes per inch or an equivalent Soil Absorption Rate of 0.20. The leach field/disposal area is calculated by dividing the Daily Design Flow by the Soil Absorption Rate which results in a disposal area of 45,548 square feet. Leach fields designed using chambers rather than the traditional perforated pipes embedded in gravel have resulted in more efficient disbursal of septic tank effluent. Infiltrator Systems Quick4 High Capacity Chambers were used to size the leach field. Each four foot long chamber provides 28.4 square feet of disposal area. Dividing the disposal area by the chamber area indicates that 1,604 chambers would be needed. The chambers are connected in a series of rows, each 100 feet long. A total of 64 rows, each 3 feet wide, would be required, resulting in a leach field that is 100 feet long by 200 feet wide or 0.46 acres. The site plan would need to provide an area for both a primary and backup leach field. The leach fields could not be developed under an impermeable surface, i.e. parking lot.

Design of the system would be based on geotechnical testing at the site. Depth to seasonal groundwater and percolation testing of the primary and backup leach fields would be required to design the septic system. Based on the information reviewed, a septic system could be developed on this site to address the wastewater discharge anticipated to be generated at the YRTC.

The estimated probable cost for design and construction of the multiple septic tank / chamber based leach field system is $174,000. Possible locations for the septic tanks and leach field are shown on the schematic site plan in Appendix A. The soils map, Yolo County Guidelines, and calculations are included in Appendix F of Appendix A.

3.14 Human Health and Safety

Alcohol and substance abuse is consistently higher among AI/AN youth than among other ethnic groups. A study conducted by the National Institutes of Mental Health indicated that five percent of the adolescent AI/AN population between the ages of 12 and 17 in California showed substance use disorders. This amounts to 7,950 youth based on Census 2000 data.

The source of substance abuse has been linked to low self-esteem and post-traumatic stress as a result of recent generations experiencing confinement in the first reservations, boarding schools, and other social, psychological and spiritual insults (Gale 1991). Various methods have been proposed to treat and reduce the substance abuse among Indian youth. It has been determined that the most successful methods include the family and community and a "use of culturally sensitive mental health approaches that maintain American Indian values" (LaFromboise 1990).

It is generally accepted that alcoholism and substance abuse are linked to higher mortality among the AI/AN population. The most common causes of death are cirrhosis of the liver, alcohol-related motor vehicle accidents, and suicide. Tribal communities have recognized the need for treatment of alcohol and substance abuse at an early age in order to stop the downward spiraling trend. The IHS has been tasked by PL 99-570 to provide for alcohol and substance abuse treatment programs. Previously these were commercial programs funded by the IHS. The IHS/CAO currently has no residential treatment programs operated by the IHS within California. All youth requiring residential care are referred to outside commercial facilities. Shortcomings of these commercial programs are lack of addressing the cultural needs of the patients, and not involving the family as part of the residential treatment.

Three group homes are available in California for substance abuse treatment for males and females aged 12-17 (CAIHS 2009). Two of them are residential centers, one for females and one for males. The other is a transitional center for females who have completed a residential treatment program. Currently the residential centers accept youth who are dependents of the state or private placements. The average AI/AN patient is not a dependent of the state and cannot afford private treatment.

Yolo County crime statistics indicate that throughout the County there were 446 reported crimes in 2014. Most reported crimes involved assaults (161) or thefts (171). There were nine reported forcible rapes, but no murders in 2014 (Yolo County 2015). Overall, crime is low in Yolo County compared with the State statistics.

3.15 Global Warming

Transportation in California contributes 38 percent of greenhouse gas (GHG) emissions in the state. Senate Bill 375, signed in September 2008, establishes requirements to reduce vehicle greenhouse gas emissions. Two strategies are to develop sustainable communities and to establish complete streets, with safe access for pedestrians, bicyclists, motorists, and public transit (BCAG 2009b). California's AB 1493 enacted in 2002, Pavley Global Warming Bill, requires reductions in GHG from light-duty vehicles. California Air Resources Board (CARB) is setting the standard for the country, requiring that new vehicles reduce emissions by 30 percent by 2016 (PCGCC 2010).

A study of carbon footprints in Metropolitan America showed that residents of metro areas have smaller carbon footprints than residents of rural areas due to reduced car travel and residential energy use (Brown 2008). The project site is in a rural area with limited public transit available, thus requiring residents to use motor vehicles to access various services. The area is in non-attainment for Ozone and PM_{10} and CO, and attainment for SO_2. To conform with the EPA, the project must comply with the 2007 South Coast Air Quality Management Plan. Permits will also need to be obtained from South Coast Air Quality Management District (SCAQMD) for equipment on site such as emergency generator, boiler, etc. Many of the activities taken to reduce these emission levels are also reducing GHG emissions and the carbon footprint.

CHAPTER 4 ENVIRONMENTAL CONSEQUENCES

This section describes the environmental consequences associated with the No Action and Proposed Action alternatives. Resource areas that are addressed in this section include direct and indirect impacts to air quality, water resources, land resources, waste and hazardous waste, cultural and historic resources, visual resources, land use, socioeconomics, utilities and public services, transportation and circulation, human health and safety, floodplain, threatened and endangered species, prime farmland, and global warming. Direct impacts are those caused by the action and occur at the same time and place, while indirect impacts are caused by the action and occur later in time or further in distance, but are still reasonably foreseeable (Council on Environmental Quality, Regulation 1508.8). Cumulative and growth-inducing effects of the Proposed Project are also assessed in this section for each of these resource areas.

4.1 Air Quality

No Action

Under the No Action alternative, the YRTC would not be constructed and the current DQ University site would continue to operate in a non-attainment area for ozone, PM_{10} and partial non-attainment for $PM_{2.5}$-24hr. No construction activities would occur, and existing traffic levels and patterns in the community would continue under current trends. There would be no new or increased sources of emissions in the project area as a result of this alternative. There would be no short- or long-term impacts on air quality under this alternative, based on requirements under the NAAQS. The proposed project area would remain in nonattainment for these air pollutants.

Proposed Action

Impacts on air quality resulting from this alternative can be divided into three main categories: 1) temporary effects associated with emissions from construction equipment and fugitive dust on-site; 2) temporary effects as a result of increased construction traffic and associated vehicle emissions off-site; and 3) emissions from increased traffic and operation of the facility.

Heavy equipment needed to build the YRTC would likely include, at a minimum, graders, bulldozers, backhoes, dump trucks, cement trucks, cranes, and other diesel and gasoline-fueled heavy and light equipment. Intermittently, over the expected construction time of one year, this equipment would emit quantities of criteria air pollutants: carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO_2), PM_{10}, and VOCs. In addition to tailpipe emissions from heavy equipment, the temporary disturbance of almost two acres of ground surface during excavation and grading activities to prepare the site for construction of the YRTC could potentially generate fugitive dust.

Fugitive dust, such as dirt stirred up from construction sites, can affect public health. The type and severity of effects depend in large part on the size and nature of the dust particles. The types of effects that can occur include inhalation of fine particles that can then accumulate in the respiratory system, causing various respiratory problems, including persistent coughs, wheezing, eye irritations, and physical discomfort.

Construction personnel would be required to implement reasonable measures, such as applying water to exposed surfaces or stockpiles of dirt, when windy and/or dry conditions promote problematic fugitive dust emissions. Adhering to these measures would minimize any fugitive dust emissions. Use of mitigation measures would reduce the possibility of adverse impacts from fugitive dust emissions. Overall, impacts from fugitive dust emissions would be temporary in duration and of minor intensity.

Exhaust emissions from equipment used in construction, coupled with likely fugitive dust emissions, could cause minor to moderate, short-term degradation of local air quality, but is not expected to result in significant deterioration of air quality due to the short-term nature of construction phase of the project.

Under the EPA's General Conformity Rule, the project requires preparation of a written conformity analysis and determination for proposed activities where the total of direct and indirect emissions of a nonattainment or maintenance criteria pollutant caused by the activity will exceed the threshold emission levels specified under the CAA. Yolo County is in nonattainment for ozone and PM10 and partial non-attainment for $PM_{2.5}$-24hr. To conform with the EPA, the project must comply with the 2007 South Coast Air Quality Management Plan. Permits will also need to be obtained from SCAQMD for equipment on site such as emergency generator, boiler, etc. Impacts to air quality are anticipated to be negligible to minor and temporary.

Mitigation

During construction activities, construction personnel will comply with EPA, CARB, and Yolo County regulations to minimize emissions of NO_x, fugitive dust, and PM_{10}.

All necessary measures to control dust shall be implemented by the contractor during grading. PM10 plan may be required at the time a grading permit is issued. The construction contractor shall be required to implement the following construction-related measures to reduce emissions of fugitive dust (including PM_{10}) and NO_x emissions below the significance thresholds, and to reduce the potential for substantial nuisance or visibility impacts in the immediate vicinity of the project site.

- Enclose, cover or water all soil piles

- Water all exposed soil with adequate frequency to keep soil moist at all times;
- Limit traffic speeds on unpaved roads to 15 mph
- Install wind fences/barriers of <50 percent porosity around storage piles, parking, and equipment staging areas
- Install trackout control device on all exits onto paved areas accessible to the public
- Ensure that mobile and stationary internal combustion engine equipment is properly maintained and well-tuned according to manufacturer's specifications

The guidelines in the 2007 South Coast Air Quality Management Plan should reduce construction-related emissions to less than the significance criteria. Therefore, construction impacts for PM_{10}, $PM_{2.5}$-24hr and NO_x would be less than significant. California's stringent emission standards, and required smog inspections, work to reduce vehicle emissions due to increased traffic in the area.

4.2 Water Resources

No Action

Under the No Action alternative, there would be no impacts to water resources, as there would be no new demand on the current supplies or any new effluent discharges that could affect water quality.

Proposed Action

Operation of the YRTC would require a total of approximately 11,387 gpd of water for consumptive use. Fire flows and water for fire storage will be provided in accordance with applicable fire insurance codes. The YRTC would rely on onsite groundwater wells for potable water and fire flows. Based on a preliminary hydrological analysis, sufficient groundwater is present at the site to develop a well with enough capacity to meet the facilities estimated water demand of 17,280 to 50,400 gallons per day (gpd). The water system will consist of a new well and water storage tank to supply the facility with sufficient water pressure and capacity to serve the facility.

The construction phase of the project will require coverage under EPA Region 9 NPDES CGP. This will require preparation and implementation of a SWPPP and inspection and maintenance of stormwater BMPs throughout the construction phase of the project.

General construction impacts associated with the development of the proposed YRTC site could affect water resources by increased stormwater runoff from the site carrying sediment and

contamination loads into surface water (i.e. Chickahominy Slough, south of CR31) during times of heavy rain, and by contamination from construction activities infiltrating area soils and percolating down into the groundwater. Increased stormwater runoff from developed sites leads to increased erosion of streams, which leads to increased siltation in lakes and rivers. The incorporation of the mitigation measures into the design phase of the project would reduce impacts to water resources below the level of significance. Stormwater would be retained on site for a 2 year, 24 hour peak rainfall.

The YRTC would be designed to manage onsite stormwater and wastewater facilities in accordance with local regulations. Overall impacts to water resources would be negligible to minor.

Mitigation

BMPs would be placed along portions of the site perimeter to control erosion during all construction activities. Driveways and parking areas for the YRTC should be designed to minimize both the volume and velocity of runoff. Pavement should be minimized, buffers of native vegetation should be maximized and road grades should be broken frequently to prevent excessive velocity buildup of runoff. Provisions should be made for conveyances of runoff through the developed project area through the existing watercourse corridors, by way of natural and improved channels, and/or storm drains. Water harvesting from impervious surfaces should be considered in order to reduce runoff and provide water for landscape irrigation. The YRTC would be LEED certified and would incorporate water-conserving fixtures in accordance with the certification requirements.

4.3 Land Resources

4.3.1 Topography and Soil

No Action

Under the No Action alternative, grading or construction activities would not occur and there would be no direct, or indirect impacts to soils and topography.

Proposed Action

Under the Proposed Action, the total project site, approximately 4.86 ha (12 acres) could be disturbed by ground clearing activities in accordance with local grading permit requirements. However, because the site is flat, the Proposed Action would have negligible impacts on topography. The YRTC footprint and access road would likely be contoured to an even grade according to architectural and engineering design specifications. The portion of the site disturbed for the utilities would be returned to existing grade. This would have a permanent, negligible to minor, adverse impact on the topography of the area.

As most construction projects involving use of heavy equipment, there is a small risk of accidental fuel or chemical spills, and potential contamination of soils. To reduce the potential for soil contamination, fuels would be stored and maintained in a designated equipment staging area or equipment would be fuelled offsite. A Spill Control and Counter Measure Plan (SPCC) would be include in the Stormwater Pollution Prevention Plan to identify the appropriate emergency response in case of a release of petroleum fluids into the environment. Emergency spill kits containing absorption pads, absorbent material, a shovel or rake, and other cleanup items, would be available on site in the event of an accidental spill. Following these precautions, the potential for an accidental chemical or fuel spill to occur and result in adverse impacts on soils would be negligible.

The NPDES under the CWA prohibits the discharge of any pollutant, including sediments, to waters of the United States. The discharge of stormwater runoff from construction sites is regulated under the NPDES program. Typically, sediment erosion rates from construction sites are 10 to 20 times greater than those from agricultural lands, and 1,000 to 2,000 times greater than those of forestlands. Construction activities disturbing one acre or more of land are regulated by Phase I of the NPDES program. The project will need to be permitted under an NPDES permit through the California State Water Resources Control Board.

The chief requirements of the NPDES general permit for construction sites are a construction NOI and the preparation and implementation of a SWPPP. SWPPPs contain measures to reduce soil erosion and prevent pollution from petroleum, oil, and lubricants (POLS) and other chemicals or hazardous/toxic materials at construction sites. Specifically, SWPPP plans assess the characteristics of the site such as nearby surface waters, topography, and storm water runoff patterns; identify potential sources of pollutants such as sediment from disturbed areas, and stored wastes or fuels; and identify BMPs which will be used to minimize or eliminate the potential for these pollutants to reach surface waters through storm water runoff.

By utilizing standard construction BMPs, such as installing perimeter silt fences, spreading straw and mulch to protect exposed ground, and covering stockpiles of earth or soils, runoff, erosion and impacts to on-site and offsite soils would be minimized. Erosion control methods would also be in place to control the fugitive dust produced during construction activities. Dust control could be obtained through the use of water wagons on exposed earth or the application of calcium chloride on gravel surfaces. Overall impacts to soil resources would be negligible to minor and adverse.

Mitigation

BMPs should be vigorously incorporated into and maintained in all project plans. BMPs at construction activity sites typically consist of various erosion and sediment control measures. At the proposed site, silt fences, straw bales, and other temporary measures would be placed in

ditches and along portions of the site perimeter to control erosion during construction activities. These temporary erosion prevention measures should be maintained in place until the site vegetation is firmly established and soil has stabilized. Regular inspections of the erosion and sediment control measures would be performed after any storm event by qualified personnel, and as required in the NPDES General Permit. All disturbed areas would be stabilized and revegetated with native plant vegetation following commencement of construction activities. Proper seed selection will result in native plants with deep root systems, which will increase local times of concentration and reduce site outflows. Increased urbanization and loss of pervious soils may result in increased surface runoff, perhaps contributing incrementally to flooding. The potential to impact soils from sediment and contamination will be minimized through use of BMPs described above.

4.3.2 Geologic and Seismic Activity

No Action

No impacts on geological resources would occur from the No Action alternative. Seismic activity would not be a great concern to the existing agricultural land use.

Proposed Action

YRTC facilities would be designed in accordance with federal trust land standards, including the IHS 2013 A&E Design Guide, and would incorporate seismic design elements, to meet the "immediate occupancy" standard. This would involve reinforced walls, anchored and braced roofs, and properly braced nonstructural elements (lighting, plumbing, Heating Ventilation and Air Conditioning [HVAC] equipment, partitions, etc.).

Mitigation

No mitigation would be required to meet seismic considerations, as the new facility would be designed using appropriate current building codes.

4.3.3 Prime Farmland

No Action

Under the No Action alternative, there would be no development of the property for construction of a new facility. Farmland would not be impacted and no prime farmland would be converted, depending on the disposition of the property if not purchased by IHS. The potential exists for it to be privately developed.

Proposed Action

As is required by the FPPA, IHS/CAO has consulted with NRCS and completed Form AD-1006 (Appendix E). Since this project received a total point value of less than 160 points, this site will receive no further consideration for farmland protection. No other alternatives than those already discussed in this document will be considered without a re-evaluation of the project's potential impacts upon farmland. This project will not have a significant impact to farmland.

Mitigation

No mitigation is required with regards to project impacts on existing farmland.

4.3.4 Floodplain

No Action

Under the No Action alternative, there would be no grading or change in elevation at the site. The existing floodplain would not be altered.

Proposed Action

Development of the YRTC site would involve grading and elevation change. Runoff would also be generated from impervious surfaces. Because the parcel is situated in the 100-year floodplain the buildings would be designed with finished floor elevation above flood elevation in accordance with state and local regulations.

Mitigation

While preliminary information on flood hazards have been prepared for this site, a detailed drainage study and engineering design will be required to ensure the YRTC meets all local, state and federal design and permitting requirements related to development in the floodplain. Proper treatment of onsite stormwater would minimize runoff and impacts to downgradient properties and local streams or ditches during peak floods. The finished floor of the facility would be built above the 100-year flood elevation.

4.4 Cultural and Historic Resources

4.4.1 No Action

There would be no potential to damage or degrade cultural or historic resources.

4.4.2 Proposed Action

As indicated in Section 3.7, Section 106 consultation under the NHPA has been completed and the SHPO has concurred that no cultural resources would be affected by the Proposed Action.

4.4.3 Mitigation

No mitigation is required. However, in the event of discovery or recognition of any buried artifacts or human remains, consultation with the State Historic Preservation Office and tribes would be undertaken, as required by Section 106 of the NHPA.

4.5 Biological Resources

4.5.1 Threatened, Endangered, and State Special Status Species

No Action

Under the No Action alternative, current vegetation and wildlife conditions would continue as they are. There would be no disturbance to the proposed site of the YRTC, and no vegetation would be removed. Wildlife species that may utilize the site and its vicinity would not be impacted.

Proposed Action

Since habitat for threatened, or endangered species does not occur on or near the project, there would be no impact to any threatened, or endangered species from the Proposed Action and section 7 consultation with the USFWS is not required.

Although research of the CNDD indicates the potential presence of Round-leaved filaree, there is only a minimal likely hood of occurrence for this species occurrence on the site, because it has been cultivated for livestock feed grass production for a long period of time.

Mitigation

Because there is a small chance for the Round-leaved filaree to occur on or near the site, the site should be surveyed for this species in accordance with the recommended survey protocol (Appendix A) prior to land disturbing activities. If the species is located on the project site, the CDFG should be consulted on appropriate mitigation measures to conserve this species.

Because there are known Swainson's hawk and other raptor nests nearby, construction activities should be limited to the non-breeding period from September 2 to February 14. If construction or vegetation removal begins between February 15 and September 1, a biologist should conduct a survey for active raptor nests within 250 feet and active Migratory Bird Treaty Act (MBTA) bird nest within 100 feet from the project boundary.

The distance and location of the nest to construction activities needs to be sufficient to minimize disturbance. To ensure no disturbance to nesting birds from construction activities, a sufficient buffer should be maintained within the designated construction boundary.

Burrowing owl surveys, according to the guidelines in Appendix A, should also be performed for the site prior to ground-breaking activities. Mitigation for discovered owls and/or burrows would consist of owl relocation or burrow collapsing, as determined appropriate through discussion with the California Department of Fish and Game.

Implementation of these mitigation measures would reduce potential impacts to special-status and other protected wildlife species and their habitats to a less-than-significant level.

4.5.2 Vegetation

Since no rare, threatened, or endangered plant species were observed on site, there should be no impact to any rare, threatened, or endangered plant species and no clearance should be required from USFWS or CDFG for impacts to vegetation.

4.5.3 Wildlife

The proposed project area and adjacent properties consist of irrigated farmland. As described in Section 3.5, native plant communities in much of Yolo County were converted to farmland in the mid-1800's, and water diversions have altered the natural surface flows that previously supported wetlands and riparian habitats. These human alterations have changed the landscape and therefore significantly diminished the amount, and quality of natural areas, and diversity of wildlife on the project area and surrounding lands.

Wildlife in the vicinity of the site consists primarily of birds and small mammals that would be impacted by the short-term exposure to noise during construction and long-term exposure to noise during operation of the YRTC facility. Numerous studies have been conducted attempting to document the effects of noise on wildlife. Wildlife responses to noise vary considerably and are a function of many other variables besides noise, including the characteristics of the noise and its duration, life history characteristics of the species, habitat type, season and current activity of the animal, sex, age, previous noise exposure, as well as other physical stressors such as drought (IHS 2006).

Construction noise impacts would likely only affect birds and small mammals that are typically found in the affected landscape. Since the construction will occur adjacent to an active farm and busy roadway, wildlife species that are sensitive to noise may already be displaced due to existing noises from traffic and farming operation. long-term operation of the YRTC is not anticipated to significantly increase noise above current levels.

The species observed on site may be temporarily affected directly during construction through disturbance (human activity, noise, and lighting), forage habitat loss, or indirectly through long-term changes in surrounding land use. Adverse effects on other resources such as air, water, and soils, also have the potential to adversely affect these species.

Based on the diminished quality of habitat and low diversity of wildlife species in the project area, the impacts from the Proposed Action on the wildlife species will be localized and minor.

Mitigation

Prior to construction, surveys for burrowing owls and other birds shall be conducted to ensure compliance with the migratory bird treaty act (MBTA). Appropriate measures will be implemented to protect or avoid nesting birds, such as placing a 50-foot buffer between active nests and construction activities, or if necessary IHS will obtain a permit to remove nests or burrowing owls that may be affected by the project. No other mitigation is required, as the site and surrounding area consists of irrigated farmland that does not provide significant habitat for wildlife.

4.5.4 Invasive and Noxious Species

No Action

Under the No Action alternative there would be no change in the current farming practice and the site would continue to produce feed grasses. The potential of incidental spread of invasive species would be the same as the baseline conditions.

Proposed Action

During the process of excavation and grading, it is possible for seeds or reproducible parts of plants to attach to equipment and therefore spread to other areas. Exportation of soil containing seeds of invasive and noxious plants could spread the plants to areas using the soil. Importation of soil for use as fill also has the potential to introduce seeds from invasive and noxious plants from other areas.

Part of the development of the site as the YRTC will involve landscaping the grounds. Use of native plants in the landscaping design will restore the area to a more natural vegetative state. Overall impacts to invasive and noxious plants would be minor to moderate and beneficial.

Mitigation

The construction contractor shall be required to implement appropriate construction-related measures to reduce incidental spread of invasive species by seed or plant dispersal on construction equipment. Construction equipment should be power washed prior to mobilizing onto the construction site. Landscaping and maintenance activities associated with upkeep of the YRTC would lead to long-term prevention of invasive and noxious weeds. Native plants should be encouraged in the overall landscape plan for the YRTC.

4.6 Socioeconomics

4.6.1 No Action

Under the No Action alternative, the YRTC would not be constructed. Therefore, no new employment associated with the construction and operation of the center would be created. No additional wages or benefits would be generated or spent in the local economy.

The social character of the Yolo County would not change. The lack of available and appropriate treatment for AI/AN youth in California would have an adverse effect on the social character of California as a whole.

4.6.2 Proposed Action

Economic Impacts

CONSTRUCTION

IHS would contract with local contractors for design and construction of the YRTC. Approximately 40 construction workers would be required. IHS is further encouraged to select Indian-owned companies for contracts and employ tribal members to the maximum extent possible. Benefits to the local economy would be realized through increased wages, materials costs, and profit. Local commercial and service entities in the community may expect to see some short-term, minor increase in activity related to expenditures by workers that are not from the area.

The federal FY15 budget authorized for the proposed hospital facility construction is $17.1 million. IHS will provide the funding to construct the hospital through new facilities construction funding authorized by Congressional Appropriation under the Health Facilities Construction Priority System. At this time, there is no tribal cost-sharing involved. All funding for the project is expected to come from Federal sources.

Construction activities are anticipated to take one year for the YRTC, with completions anticipated by 2016. The resulting impact on the local economy would be temporary. An additional benefit resulting from construction of the facility would be an increase in State revenue from the collection of contractor's taxes.

OPERATIONS

Local utility companies may expect to see long-term negligible increase in services provided to the YRTC. A long-term economic benefit would be from the jobs created for operation and maintenance of the new facility. Up to 70.2 full-time employee positions would be created with development of the facility.

Social Impacts

In addition to the temporary employment of approximately 40 construction workers, the YRTC will provide long-term employment opportunities for Tribal members and future and local residents. According to preliminary estimates calculated by IHS, 70.2 full-time employees will be necessary to support the project workload at the new facility (CAIHS 2003).

This does not mean that 70.2 Tribal members will become full-time employees of the YRTC. Since many of the professions require training that is often extensive, it is possible that the new facility will not be able to fill all of the skilled positions despite the high Tribal unemployment rate in the State. These employment opportunities will be available for skilled local residents. The number of Tribal members employed at the YRTC will depend on the availability of skilled workers from the Tribes. However, the increase in positions in the areas of administrative support and facility support, such as security, are anticipated to be largely filled with Tribal members. The overall impacts of the YRTC on tribal employment in California are anticipated to be minor to moderate and beneficial.

The current population of AI/AN in Yolo County is approximately 3,900. Operation and use of the facility would employ and treat up to 100 AI/AN staff and patients. If all 100 were from outside this area, the increase in AI/AN population in the area would be two percent. This increase would likely be less considering that approximately 25 percent of the staff and residents are expected to be from within the local area. Concerns about changes in safety are not warranted based upon the analysis in Section 4.10. The increase in AI/AN staff and residents would not create a significant change in the area demographics.

Although some local residents have expressed concerns about the potential for increased crime associated with juveniles in the program, no similar facilities have resulted in an increase in crime in their communities. Overall, based upon the increased employment opportunities, and insignificant changes in area demographics, socioeconomic impacts as a whole would be minor to moderate and beneficial in the short-term and long-term.

4.6.3 Mitigation

IHS would seek to employ AI/AN and other disadvantaged workers for as many positions as possible to construct and operate the YRTC.

4.7 Transportation and Circulation

4.7.1 No Action

Under the No Action alternative there would be no change in access to the existing properties along CR 31. Traffic volumes CR 31 would not be impacted.

4.7.2 Proposed Action

Impacts on traffic patterns and circulation on CR 31 would be minimal. The driveway entrance from CR 31 would be located at least 500 feet from the entrance to the DQ University and conform to county transportation department roadway design standards. Appropriate signage would also be installed on CR 31 and the entrance to the YRTC. Potential impacts on local transportation and circulation patterns near the YRTC site would be negligable.

4.7.3 Mitigation

Appropriate traffic control measures would be put in place during construction of YRTC to warn drivers on CR 31 of the presence of heavy equipment entering and exiting the site.

4.8 Land Use

4.8.1 No Action

Under the No Action alternative, there would be no impacts to surrounding land use in the vicinity of the YRTC site. The current land use consists of a Tribal University Campus and irrigated agriculture land that is administered by the federal government. Yolo County has designated the proposed project site as Quasi-Public land.

4.8.2 Proposed Action

The Proposed Action would result in the continued governmental use of the site for a regional on-site treatment center for AI/AN youth. This proposed use is allowed under the current Quais-Public land use designation.

The Yolo County General Plan lists several land use goals and policies that are relevant for the area. In general, the plan is designed to accommodate a balanced mixture of compatible land uses throughout the county, including a variety of residential and commercial land use densities and intensities in appropriate locations. Although this federal facility is not required to comply with local land use regulations, the proposed project would be consistent with the general principles of the plan.

Based on our evaluation of existing land uses, existing land use regulations, and General Plan, the proposed project is compatible with neighboring land uses and is consistent with the goals and policies of the county plan. Therefore, impacts to land use would be minor and beneficial.

4.8.3 Mitigation

No specific mitigation is necessary. The proposed project would incorporate appropriate design elements for consistency with local land use goals and objectives.

4.9 Utilities and Public Service

4.9.1 No Action

Since the proposed facility would not be constructed under the No Action alternative, there would be no potential to disrupt or damage utility lines, communications equipment, or water lines. No additional utility connections, constructions, or extensions would be necessary under this alternative. Existing utility use patterns and demand would continue. Public emergency services would continue to operate under current conditions and demands. No impacts on utilities and public services are anticipated under this alternative.

4.9.2 Proposed Action

During construction of the YRTC, anticipated to last about one year, there would likely be negligible to minor impacts on utilities.

Energy

No major impacts related to electric utilities are anticipated. The electrical power provider may need to extend existing electrical lines to the new facility and possibly upgrade the service. Since electrical infrastructure is already in place, there should be minimal disturbance from the proposed project.

Communications

Telecommunication service is nearby at the DQ University. Extension of these services on installation of new service lines to serve the new facility, would result in minimal disturbance.

Water Supply

Water supply wells would need to be permitted and construction in accordance with state and local regulations. Based on surrounding irrigation activity and results of the preliminary groundwater report, there is sufficient groundwater to support the new YRTC.

Wastewater

There is no existing sewer system. The YRTC would require an onsite wastewater treatment and disposal system, which will be part of the engineering design and site development. The treatment system would be constructed to meet the engineering and performance design standards required by Yolo County and the State.

Emergency Medical Response

There will be no change in provision of emergency services. Emergency Medical Response, Fire Suppression, and Law Enforcement will likely see some incremental increase in activity due to the development of the YRTC, but discussions have begun with the county administration to include some mutual agreements to cover anticipated increased costs for emergency services.

Fire Suppression

The Plainfield Fire Department and other regional fire departments, have sufficient manpower and resources to respond to emergencies at the new YRTC.

Law Enforcement

No impacts to law enforcement will occur as a result of the new YRTC. It is likely that the facility would provide its own security in order to discourage and/or prevent vandalism to the and to ensure the safety of staff, patients, and visitors.

4.9.3 Mitigation

A sprinkler system would need to be included in the design of the YRTC, in compliance with the National Fire Protection Code. There will be an on-site water storage tank for fire suppression. Pretreatment of the wastewater will be investigated during the design phase. Contingency planning for emergency situations will be incorporated into the facility design phase of the proposed project.

4.10 Hazardous Materials and Solid Waste Management

4.10.1 No Action

Under the No Action alternative, there would be no impacts on waste management, as there would be no new demand.

4.10.2 Proposed Action

The construction of the YRTC would generate solid waste, which would be disposed or recycled.

Non-hazardous construction debris that cannot be reused or recycled would be hauled offsite and properly disposed by the local Waste Management contractor. Hazardous waste would consist of flashlight batteries and fluorescent lamp bulbs, which can be recycled or properly disposed. Portable restrooms for employee use during construction would be provided and maintained by a private contractor. There would be no medical waste.

The overall impacts on waste management from the Proposed Action would be localized and negligible.

4.10.3 Mitigation

During both the construction and operation phases of the YRTC, as many materials as possible should be recycled and/or reused to minimize the amount of solid waste generated by the facility. All hazardous materials stored and/or generated at the YRTC should be properly and uniformly labeled and housed in appropriate storage cabinets. Prior to commencement of facility operations, YRTC staff should provide the local fire department a walkthrough of the facility to familiarize the area's emergency response staff with the nature and location of all hazardous materials kept on the premises, in order to facilitate appropriate responses in the event of facility emergencies.

4.11 Human Health and Safety

4.11.1 No Action

Under the No Action alternative, the YRTC would not be constructed. AI/AN youth would continue to be treated at existing commercial treatment centers, which do not address their cultural needs and have insufficient capacity to serve all the California AI/AN youth in need of treatment.

The existing facilities are unable to meet the health care demands of the present and the projected adolescent population. Therefore, health care service would possibly decline in quality and response to increased workload quantities associated with the growing need.

The prolongation of an insufficient substance abuse treatment system would continue to adversely affect numerous AI/AN youth. Many of these youth do not have the means to obtain adequate treatment. A decline in services may result in unnecessary or prolonged illness, possibly even resulting in premature death, for those who do not have the means to go elsewhere.

4.11.2 Proposed Action

The construction of the YRTC would involve direct health and safety issues for workers. The National Institute for Occupational Safety and Health considers construction to be a high-risk industrial sector. In 2001, approximately 9.6 million persons were employed in the construction industry. Fatal occupational injury rates in this industry ranged from 75.6 for ironworkers per 100,000 full-time workers to 6.0 for drywall installers, more than a 12-fold difference. Following ironworkers, the highest occupational injury rates for construction workers occurred in roofers, welders and cutters, construction laborers, and truck drivers (IHS 2006). All construction activities on the YRTC and associated facilities would be considered routine.

Although the IHS does not have any specific human health and safety regulations, they require compliance with Occupational Safety and Health Administration (OSHA) regulations. Regulations for safeguarding construction workers on construction site fall under OSHA, and are the responsibility of construction contractor(s). Risks to human health and safety at the project site during construction would be temporary, localized and minor given the OSHA safety regulations and requirements.

The operation of the YRTC would provide residential substance abuse treatment for AI/AN youth. Services would include:

- Individualized assessment and treatment plan directed towards positive development of personal growth
- Individual, group, and family counseling sessions
- Dietary and physical/health care
- Athletic and recreational activities
- Spiritual/religious activities
- Cultural activities
- Educational services

The goal of the YRTC is to help each resident resolve issues hampering personal growth by resolving developmental issues and intra/interpersonal relationships. Each resident would be placed in a structured program setting, behavior would be closely monitored, and goals assessed at weekly progress meetings. Patients would be admitted on a volunteer basis. The goals of the dependency treatment are to break the addictive cycle, provide skills necessary to prevent a relapse, and teach the adolescent to live a healthy balanced life (CAIHS 2003).

The YRTC also encourages participation and involvement of the family in the healing process. For the AI/AN adolescent who has managed to maintain traditional value systems, the involvement of family and community in healing and overcoming problems is very important.

The facility is a voluntary treatment center for those youth whose parents or guardians consent to the treatment. The center would be secured around-the-clock by staff and electronic surveillance. Patients are only admitted if they are not violent criminals, are not likely to be dangerous, and/or have not been charged or convicted of violent crimes. Youth are not allowed to leave the site without an escort, and must adhere to a rigid, demanding schedule. If a youth

decides to leave, transportation will be provided to escort the youth home. After almost 20 years of YRTCs in existence, this has rarely happened.

The overall impacts to human health and safety from the operation of the YRTC would be state-wide for all California tribes, moderate to major, and beneficial.

4.11.3 Mitigation

Highly visible signs would be posted to warn and inform the public of construction activities in order to mitigate adverse impacts posed to human health and safety during construction activities.

To ensure that the health care providers can deliver services in a safe, secure environment, with minimal threats to the property and well-being of patients, visitors, and staff, professional security staff may be devoted solely to providing around-the-clock security coverage. Security within the facility would consist of video surveillance monitors, suicide prevention electric outlets, lights and switches, perimeter fencing, and staffing trained in crisis response in attendance overnight.

4.12 Noise

4.12.1 No Action

Under the No Action alternative, the YRTC would not be built at the proposed site, and there would be no associated noise from new construction or operation of the facility in the immediate vicinity.

4.12.2 Proposed Action

During the construction of the YRTC, noise would be produced by heavy equipment (e.g., scrapers, bulldozers, graders, loaders, dump trucks, pneumatic hammers), and building construction equipment (e.g., saws, drills, compressors, hammers, welding, etc.). Federal workplace standards for protection from hearing loss allow time-weighted average level of 90 dBA over an 8-hour period, 85 dBA averaged over a 16-hour period and 70 dBA over a 24-hour period. Noise produced by diesel-powered equipment is typically 85 dBA at a distance of 50 feet from the equipment (IHS 2006). However, the noise of individual pieces of equipment can vary considerably depending on age, condition, manufacturer, use, and a changing distance from the equipment to a receptor location. Operation of the equipment also varies considerably throughout the construction phase and day to day.

The primary human effect due to prolonged noise is annoyance. Other non-auditory human effects include speech interference, stress reactions, sleep interference, lower morale, efficiency reduction, and fatigue (IHS 2006). Although construction noise may be audible at a receptor

located within several miles, the proposed construction site is located in a rural area that consist primarily of agricultural fields. Though neighboring residences already experience background noise related to vehicle and agricultural traffic on CR 31, the impacts of noise due to construction, or as a result of increased traffic due to construction, are expected to be temporary, and negligible.

Operation of the facility at the proposed site is anticipated to have a negligible impact on neighboring residents. The goal of the YRTC is to provide a quiet and serene location for healing of the patients. Loud noises and activities are not part of the facility's program. The YRTC site would be set back from CR 31, and vehicle noise associated with the new facility would only contribute an insignificant amount over the background levels of traffic noise that exist in the area.

4.12.3 Mitigation

To minimize the impact construction noise would have on nearby residents, it is recommended that construction occur only during daytime hours during the week.

4.13 Visual Resources

4.13.1 No Action

No visual resources would be impacted.

4.13.2 Proposed Action

The YRTC facility would be visible from CR 31 and DQ University staff and students; however, there are no residential neighbors adjacent to the project site. The new buildings would be partially screened by existing trees and the site would incorporate landscaping to enhance visual aesthetics. Because there are very few visual receptors in the vicinity of the Proposed Action, visual impacts are considered to be negligible.

4.13.3 Mitigation

No mitigation is anticipated for visual resources.

4.14 Global Warming

4.14.1 No Action

Under the No Action alternative, there would be no construction or maintenance of a new facility. There would be no increase in traffic volume in the area due to visits to the YRTC. CO2 emissions would remain as they are without further increase.

4.14.2 Proposed Action

Project impact on Global Warming

Development of the YRTC site would result in a local increase in CO2 emissions due to transportation of building materials, and construction activities to include pouring concrete and asphalt. Maintenance and operation of the YRTC facility would also create a local increase in CO2 emissions due to increased traffic volume from staff and patients, and energy usage to heat and cool the facility (IIGCC, 2004). The overall impacts of the project on global warming would be negligible.

Global Warming impact on the Project

Global warming's impact on California is forecast to cause a significant loss of cropland and an increase in forest fires. Increased development in the San Jacinto Valley will increase the loss of homes. It is forecast that global warming will cause an approximate 5 percent decrease in precipitation and significant drying of the Mediterranean latitudes of Northern California. Reduction of the San Jacinto snowpack combined with drier and hotter conditions will result in water shortages throughout the agricultural belt. Hydropower production will decline as the snowpack and runoff declines at the same time the electrical usage increases. The impact on the project would be increased energy costs to maintain the facility.

4.14.3 Mitigation

IHS guidelines require energy-efficient design for their facilities. By utilizing alternative energy sources such as solar, geothermic, and/or wood biomass while incorporating LEED Green Building Design Standards, IHS would be able to reduce the carbon footprint of the new facility. New federal regulations regulating passenger vehicle emissions have been proposed and when implemented in the area would reduce the amount of CO2 emissions by facility traffic.

CHAPTER 5 CUMULATIVE IMPACTS

CEQ regulations (40 CFR 1508.7) require the assessment of cumulative impacts in the decision-making process for Federal projects. A cumulative impact is an impact on the environment that results from the incremental impact of one action when added to other past, present, and reasonably foreseeable future actions regardless of which agency (Federal or non-Federal), organization, or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time.

To determine potential cumulative impacts, projects in the area surrounding the proposed project site were identified. Potential projects identified as cumulative actions included any planning or development activity that was currently being implemented or that would be implemented in the reasonably foreseeable future. These cumulative actions were evaluated in conjunction with the impacts of each alternative to determine if they would have any additive effects on the resources impacted by the proposed YRTC. There are no known new development projects planned within 3 miles (4.8 kilometers) of the project site. The area is zoned Quasi-Public and there are no subdivisions or commercial properties nearby. Development projects are generally in the Cities of Davis and Woodland approximately 5.3 and 7.1 miles (8.5 and 11.5 kilometers) away, respectively.

Table 5-1 summarizes possible cumulative impacts from the construction and operation of the YRTC. The primary resource areas affected by the proposed YRTC that are also anticipated to be affected by cumulative impacts, are socioeconomics and land use. Many of the current and future projects within Yolo County would incrementally increase local employment opportunities, thereby increasing the household incomes of an unspecified number of residents and generating more revenue to the County. These impacts to socioeconomics are expected to be direct and indirect, minor to moderate, and beneficial. Any future development within the area that does not meet the zoning of the land use plan would affect the general character of the community. Zoning variances are not anticipated to be granted easily to uses that are not compatible with the General Plan. Impacts to land use are expected to be minor.

There would be no significant adverse cumulative impacts from the Proposed Action.

Table 5-1 Cumulative Impacts.

Resource	Cumulative Impacts
Air Quality	The project area is in non-attainment for Ozone and PM_{10} and partial non-attainment for $PM_{2.5}$-24hr. Any additional construction projects in the vicinity might incrementally contribute particulate matter from dust and wind erosion that could further impair air quality in the area. Any proposed construction activities would be required to follow County guidelines for minimizing impacts to air quality. Cumulative impacts on air quality would be negligible to minimal.
Invasive and Noxious Species	The construction of the YRTC would serve to remove invasive and noxious species, which may be present on the site, and plant native species. Cumulative impacts to invasive and noxious species would be minor to moderate and beneficial.
Topography and Soils	The addition of the YRTC to the landscape will have negligible to minor impacts on topographic and soil resources. The project site of the YRTC facility is currently under irrigated agriculture. Cumulative impacts to topography and soils should be negligible to minor.
Water Resources and Stormwater Water Quality	The projected water consumption of the YRTC represents an incremental increase in the consumptive use of local water resources. Any future growth and development in the area would further increase demands on the local aquifer. The use of water by the YRTC would not represent a substantial increase in the total use of water by neighboring farms in the area. Minimal cumulative impacts are expected on the water resources. There will be negligible to minor cumulative impacts on water resources from the treatment of wastewater in on-site septic systems and a leach field. The project will be avoiding impacts to any wetlands or waters of the United States. There will be no cumulative impacts to wetlands or waters of the United States.
Waste and Hazardous Materials Management	The construction of the YRTC will generate construction debris that will have to be disposed of. Any and all other construction projects in the area would also increase the impacts to waste management from the generation of construction debris. Operation of the YRTC will have a negligible to minor impact on waste and hazardous materials management. Any other facilities in the vicinity that store, generate, or dispose of hazardous materials would also cause adverse impacts to hazardous materials management. The cumulative impacts on waste and hazardous materials management from the construction and operation of the YRTC will be minor.

Resource	Cumulative Impacts
Geologic, Seismic Considerations	Due to modern construction techniques, which address seismic concerns, there will be no impacts to geologic or seismic issues with construction of the YRTC. Any proposed development projects in the area would likewise utilize seismically safe construction and design. There would be no cumulative impacts to geologic and seismic issues.
Cultural and Historic Resources	No cultural or historic properties are located on the project site. If unexpected finds of significance were discovered in the course of development of the YRTC, appropriate mitigation would be undertaken. Cumulative impacts to cultural resources are anticipated to be negligible.
Visual Resources	Visual resources will not be impacted by the YRTC due to screening and appropriate siting of the proposed facility. Cumulative impacts to visual resources are anticipated to be negligible.
Land Use	Land use of the proposed YRTC will be consistent with County land use policies to the extent practicable. Any future development in the surrounding area must be consistent with the County's General Plan, therefore there will be negligible cumulative impacts.
Socioeconomics	The construction and operation of the YRTC is expected to create a small amount of short-term (construction) and long-term (facility operation) employment. Any and all future growth and development in the County would bring additional jobs to the area that would benefit the local economy. Operation of the YRTC would allow for an increased number of facility visitors and staff to contribute to the local economy. Therefore, minor to moderate beneficial cumulative impacts could result from the Proposed Action.
Utilities and Public Service	Under the Proposed Action, the demand for utilities and public service would increase from the demand of the existing facility. Future growth and development could result from improved utilities and could also impact demand for these services. Minor to moderate adverse impacts are expected due to demand.
Transportation and Access	The Proposed Action would have no change in access for residents near the YRTC. Traffic in the area would increase and result in negligible to minor impacts. Additional projects in the vicinity of the YRTC could bring increased traffic to the area, however, none are proposed. Minor cumulative impacts to transportation and access issues are expected.
Noise	Noise is anticipated to increase slightly in the project vicinity as a result of construction and operation of the YRTC. Any additional projects in the vicinity might also incrementally contribute noise impacts, which could disturb residents and wildlife in the area during both construction and operation. Based on the level of noise in the area due to vehicle and agricultural traffic, the cumulative impacts to noise could be minor, depending on what type of project is proposed.

Resource	Cumulative Impacts
Human Health and Safety	The Proposed Action would result in long-term beneficial human health and safety impacts, from the increased quality of substance abuse treatment available to California AI/AN youth. Other proposed projects might impact human health and safety during construction. Therefore, there would be negligible cumulative health and safety impacts in the area due to construction and moderate beneficial health and safety impacts due to operation of the facility.
Floodplain	The project is located in a floodplain area. IHS will work with Yolo County to obtain the appropriate permits and authorizations to develop the waste water treatment system, stormwater detention areas, and ensure the facilities meet all federal, state, and local development codes. There would be no significant cumulative impacts to the floodplain by the project.
Threatened, Endangered, and State Special Status Species	The proposed facility will have no significant impacts or will mitigate for impacts on listed species. Future projects would need to practice avoidance and minimization procedures to reduce or eliminate impacts if listed species are within the project area. No projects are currently in the planning or design stages for the vicinity of the project area, therefore cumulative impacts to listed species would be considered minor.
Prime and Unique Farmland	The proposed construction would have minor impacts on prime farmland. No projects are currently in the planning or design stages in the vicinity of the project area, therefore cumulative impacts to prime farmland would be considered minor.
Global Warming	Due to the global nature of the topic, the integration of CO_2 emissions across the country, and the difficulty of quantifying each individual project's actual impact on global warming, it is not possible to determine the cumulative impact of this project on global warming (USFS 2009).

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CHAPTER 7 PERSONS AND AGENCIES CONSULTED

DOWL prepared a scoping package that was submitted via email to a list of fifty-five (55) agencies, government official, Non-profit organization and other stakeholders (herein referred to in total as the "stakeholders") that was provided by IHS/CAO. A copy of the scoping package and stakeholder transmittals is provided in Appendix D. Follow up phone calls were made to each of the stakeholders to answer any questions and make sure that the scoping package was received. During the follow up, many of the contacts for the stakeholders were updated and the scoping package resent to the appropriate contact. Appendix D2 includes a copy of the entire list of stakeholders contacted a summary of the comments that were received, and copies of any comment letters or correspondence received in response to the scoping package.

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CHAPTER 8 LIST OF PREPARERS

Indian Health Service, California Area Office

Shane Deckert, EA Lead
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Appendix A
Constraints Report

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Appendix B
Cultural Resources Report

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Appendix C
Consultation with the State Historic Preservation Office

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Appendix D
Scoping Package and Comments

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Appendix E
Prime Farmland Consultation

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FINDING OF NO SIGNIFICANT IMPACT

Indian Health Service, California Area Office
Northern California Youth Regional Treatment Center

Based upon a review of the attached Environmental Assessment (EA) and the supporting documents, I have determined that the project is not a major federal action and will not have a significant effect on the quality of the human environment, individually or cumulatively with other actions in the general area. No environmental effects meet the definition of significance in context or intensity, as defined at 40 CFR 1508.27. Therefore, an Environmental Impact Statement is not required. This finding is based on the context and intensity of the project as described below.

Context:

The project is a site-specific action directly involving 12 acres (4.86 hectares) of Quasi-public land (the "project site") that does not in and of itself have international, national, regional, or statewide importance. The U.S. Department of Health and Human Services (DHHS), Indian Health Service (IHS), California Area Office (CAO), proposes to fund the design, construction and operation of a Youth Regional Treatment Center (YRTC) in Yolo County, located approximately 6.7 miles (11 km) west of Davis and approximately 20 miles (32 km) west of Sacramento, California.

In 2001, Tribal leaders voted to develop residential treatment services for American Indian and Alaska Native youth in California, to comply with the Indian Health Care Improvement Act, Public Law (PL) 94-437 (amended in 1992 by PL 102-573). The amendment states in Section 704 that the IHS/CAO shall construct and operate one YRTC in the north area of the state and another to serve the remainder of the state. Requirements in the law were based on results of a study conducted by the National Institutes of Mental Health that indicates five percent (5%) of the adolescent American Indian and Alaska Native population in California showed substance use disorders. This amounts to 7,950 youth, based on U. S. census 2000 data.

Based on the requirements of the Public Law, IHS/CAO conducted an extensive search to identify a suitable site for the northern YRTC in accordance with the specifications for the new facility that are outlined in the Program Justification Document (PJD) completed in 2003 by IHS and the Department of Health and Human Service. IHS/CAO evaluated several undeveloped parcels of land, as well as existing health care facilities, and completed Phase I and II Site Selection and Evaluation Reports (SSERs) in their search for a suitable site. Results of this search indicated that a portion of the DQ University property in Yolo County would be the most suitable location for the northern YRTC, as there are no significant environmental constraints, or other encumbrances, that would preclude development of the site.

The proposed facility will provide 24-hour treatment for youth, 12 to 17 years of age. This YRTC will consist of a 3,738 square meter (40,235.5 square foot) facility on the 12-acre (4.86-hectare) parcel, which currently functions as irrigated agricultural land that is part of the DQ University property. The proposed YRTC will be designed to treat 96 American Indian and Alaska Native youth per year on a residential basis and will create approximately 70.2 new staff positions. Five family suites are proposed as part of the facility to allow concurrent treatment of the youth's family members.

The EA was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 USC 4321 et seq.), the Council on Environmental Quality regulations (40 Code of Federal Regulations 1500-1508) for implementing NEPA, the DHHS General Administrative Manual, Part 30, and the IHS Environmental Review Manual.

Refer to the EA for a complete description of the proposed project and the affected environment. Since the treatment center exceeds 1,080 square meters, the project is not categorically excluded as defined in 40 Code of Federal Regulations 1508.4 and the IHS Federal Register notice of January 6, 1993. The IHS/CAO completed the EA in accordance with NEPA, to evaluate the environmental consequences of the Proposed Action. The EA includes a "No Action" alternative. Considering the findings in the EA, comments from agencies, and the local community, the IHS/CAO has made a determination that the action will not have a significant impact on the quality of the human environment.

Intensity:

The context and intensity of public comments were considered. Scoping with local stakeholders, property owners, county, and Tribal officials, indicate support for the Proposed Action with negligible controversy. The following ten (10) Significance Criteria described at 40 CFR 1508.27 have been considered in evaluating intensity for this proposal:

1. Impacts that would be both beneficial and adverse:

The primary long-term benefit of the proposed YRTC is that it would provide improved access to substance abuse treatment for the American Indian and Alaska Native youth of California. Implementation of this Proposed Action would contribute to improving the health and well being of the American Indian and Alaska Native youth in northern California by increasing their access to residential treatment services. In the short-term, construction of the YRTC would positively benefit the local community by providing employment opportunities for those employed in the construction trades.

Adverse effects would include minor to negligible impacts to soils, wildlife, floodplain, air quality, and traffic that will occur temporarily during construction of the Proposed Action. Long-term effects would be extremely limited in intensity and scope.

2. The degree and effect on public health and safety:

IHS/CAO and Tribes have selected the Proposed Action, comprised of the YRTC, as the environmentally preferred alternative. The Proposed Action achieves the balance of resource protection and beneficial uses of the human environment envisioned by NEPA, while meeting the purpose and need for the project. The project would beneficially affect American Indian and Alaska Native youth, as well as public health and safety of the communities in which they live.

Without the YRTC project (the No Action Alternative), American Indian and Alaska Native youth suffering from substance abuse in the northern California area would continue to be treated at outpatient care facilities that do not address their unique cultural needs. Furthermore, the existing substance abuse treatment programs and facilities would not meet the health care requirements of the present and projected population of American Indian and Alaska Native youth in need of treatment.

3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, prime farmland, wetlands, wild and scenic rivers, or ecologically critical areas:

There are no wild and scenic rivers, wetlands or waters of the United States, ecologically critical areas, or significantly important prime farmlands that would be directly impacted by the project. As described in the EA, there are no historic or cultural resources on the proposed project site. Environmental commitments integral to the preferred alternative, such as stormwater management, treatment of sewage, and avoidance of sensitive wildlife resources will also lessen adverse effects to natural resources.

4. Degree to which the possible effects on the quality of the human environment are likely to be highly controversial:

Public input regarding the Proposed Action has been solicited during an extensive project planning process, initiated more than 7 years ago. Representatives of BIA, Tribes, IHS, Yolo County Supervisors, Yolo County Flood Control and Water Conservation District, City of Davis, U.S.D.A. National Resource Conservation Service, Central Valley Regional Water Quality Control Board, California Game and Fish Department and members of the public were contacted for input from the initial site selection process, through scoping and development of the EA. Comments received during scoping have been incorporated into the EA.

Concerns were raised by one individual from the general public about the project-specific effects on groundwater, floodplain, stormwater management, prime farmland, and the on-site septic treatment system. Based on the comments received from agencies and the public, the effects on the quality of the human environment are not considered highly controversial or rise to the level of significance requiring additional evaluation in the EA.

The EA has been released, along with this FONSI, for a 30-day public review and comment period, beginning on September 23, 2015 and ending on October 23, 2015. Any new and substantive comments that indicate the Proposed Action would be controversial, or have significant impacts on natural resources or the human environment would be carefully considered by IHS and addressed in accordance with NEPA.

5. Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risk:

No highly uncertain or unknown risks to the human environment were identified during the analysis of the preferred alternative.

6. Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about future considerations:

The preferred alternative neither establishes a precedent for future IHS actions with significant effects nor represents a decision in principle about a future consideration.

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts:

No individually or cumulatively significant impacts were identified for the preferred alternative. Any adverse impacts identified for the preferred alternative, in conjunction with any adverse impacts of other past, present, or reasonably foreseeable future actions will result in negligible to minor impacts to natural resources.

8. Degree to which the action may adversely affect district, sites, highways, structures, or objects listed on the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources:

An archeological study to identify districts, sites, or other properties eligible for listing to or included on the National Register of Historic Places (NHRP) was completed for this preferred alternative. The investigations satisfied the federal and state guidelines for the identification of historic and pre-historic properties. No historic or pre-historic properties or traditional cultural properties were identified within the area of potential direct or indirect effects of the Proposed Action.

The California State Historic Preservation Officer has concurred with a determination of "No Effect" to historic properties for the preferred alternative (letter dated August 10, 2015).

9. Degree to which the action may adversely affect an endangered or threatened species or its critical habitat:

No federally listed threatened or endangered species were identified as potentially occurring on the site. This determination is based on results of a field survey and research, by a qualified biologist, of the U.S. Fish and Wildlife Service threatened and endangered species database and critical habitat mapper website using the geo-coordinates for the project site. Additionally, no critical habitat occurs on or within 10 miles (16 km) of the project site.

10. Whether the action threatens a violation of federal, state, or local environmental protection law:

The preferred alternative violates no federal, state, or local environmental protection laws.

The FONSI is hereby approved and will be available to any agency or individual upon request at: IHS/CAO, 650 Capitol Mall, Suite 7-100, Sacramento, CA 95814.

Approved by:

_____

Authorized Officer Date

Locations where the draft EA was made available for review:

Woodland County Library
250 1st Street
Woodland, CA 95695
(530) 661-5980

Yolo County Library – Davis Branch
315 E 14th St
Davis, CA 95616
(530) 757-5593

Attachment C

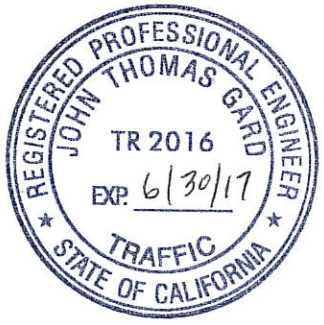
Final Transportation Impact Study for Sacred Oaks Healing Center

Prepared for:

California Area Indian Health Service

RFE Engineering

March 22, 2017



FEHR PEERS

RS17-3505

This report was prepared under my direction and responsible charge. I attest to the technical information contained herein.

3/22/17

John Gard, P.E. Date

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Appendices

EXECUTIVE SUMMARY

This study analyzes the transportation impacts associated with the proposed Sacred Oaks Healing Center, which would be located in unincorporated Yolo County on the north side of County Road (CR) 31 between CR 93A and CR 95. This study provides a comprehensive analysis of the proposed project including operations at the project driveway under existing and cumulative conditions, collision history on CR 31, sight distance at the project driveway intersection with CR 31, on-site circulation, and parking.

PROJECT DESCRIPTION

The Sacred Oaks Healing Center is a regional treatment facility for Native American youth with substance abuse and related disorders. It would consist of 32 beds and 70 employees. A single project driveway on CR 31 would be provided to the site, which is currently undeveloped.

STUDY AREA, ANALYSIS PERIODS, AND SCENARIOS

The segment of CR 31 between CR 93A and CR 95 was studied under existing and cumulative conditions. Operations at the project driveway were analyzed for weekday AM, Midday, and PM peak hour conditions.

OVERVIEW OF STUDY FINDINGS

The proposed project would generate approximately 200 vehicle trips per day, with 71 percent distributed to/from the east on CR 31 (toward City of Davis). The project driveway intersection would operate acceptably in terms of delay and level of service (LOS) with side-street stop-control.

Fehr & Peers recommends that a dedicated eastbound left-turn lane be constructed at the project driveway due to the probability (estimated at 65 percent for weekday mornings under cumulative conditions) that left-turning vehicles would need to stop on CR 31 and wait for an oncoming westbound vehicle to pass before turning left.

PROJECT ACCESS RECOMMENDATIONS

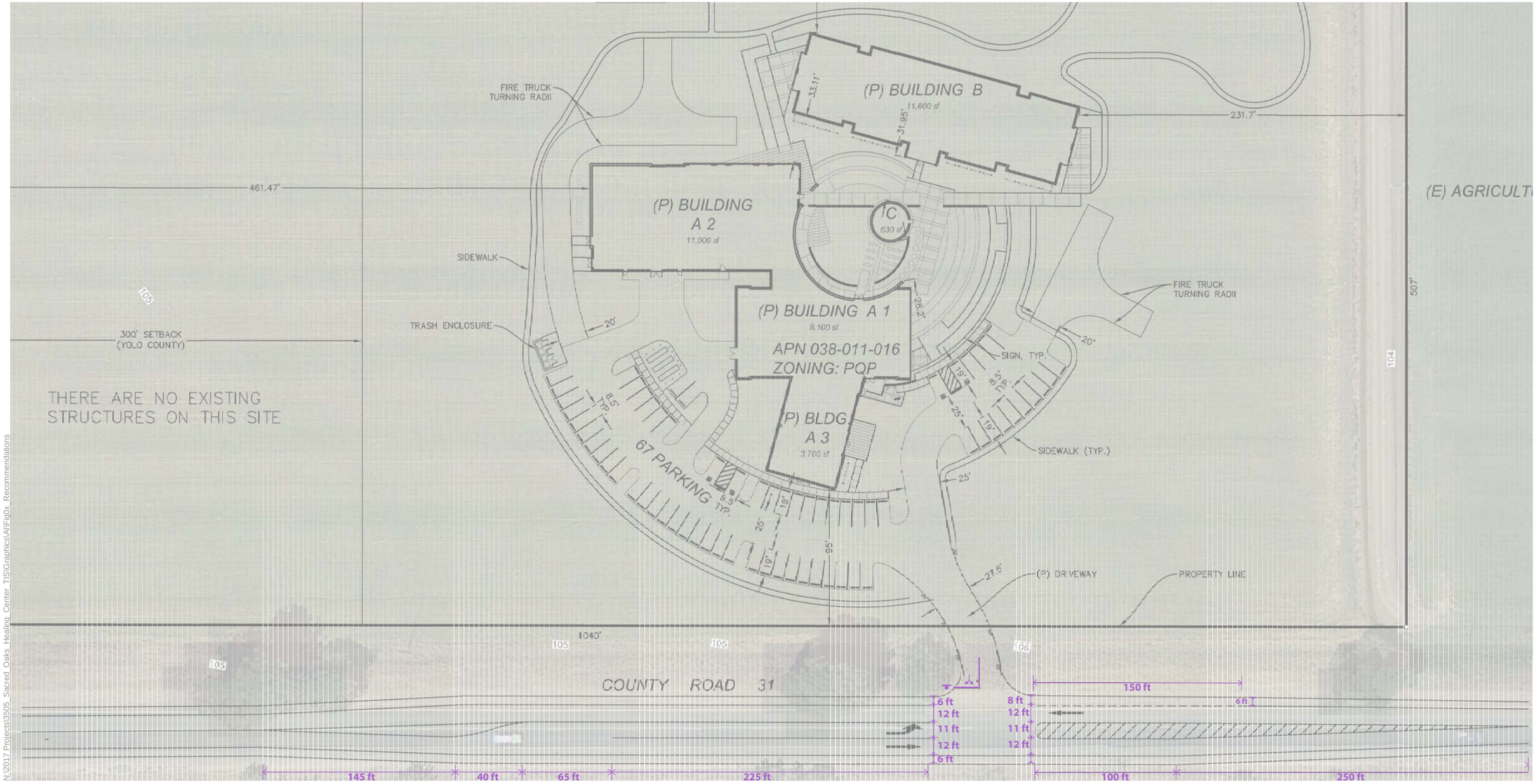
- *Construct a dedicated eastbound left-turn lane on CR 31 at the project driveway*. Refer to Figure ES-1 for conceptual layout of intersection.
- *Maintain the existing six-foot Class II bikeway on both sides of CR 31 along the project frontage*.
- *Construct a westbound right-turn deceleration taper on CR 31 at the project driveway*. Similar to the recommendation for the eastbound left-turn lane, this is recommended to provide deceleration opportunities for vehicles turning right into the project site.
- *Modify the centerline striping along CR 31 to prohibit passing in the vicinity of the project driveway*.

SIGHT DISTANCE RECOMMENDATIONS

- *Remove the two trees located directly west of the project driveway*. However, if subsequent discussions between Yolo County and Indian Health Services (IHS) regarding their removal determines they should remain, then they should be pruned back to remove all branches located eight feet or less above the ground (for portion of tree between its trunk and the road).
- *Once the project driveway is constructed, conduct a final review of sight distance looking to the left to ensure that the tree near the eastern project boundary does not obstruct the line of sight of oncoming vehicles. If necessary, prune any branches that obstruct the line of sight.*

INTERNAL CIRCULATION RECOMMENDATIONS

- *Consider converting the rectangular parking island located west of Building A into a more formal drop-off area (i.e., semi-circular design with some parking and monument space remaining).*
- *Ensure that garbage trucks can access the trash enclosure located on the westerly side of the site.*
- *Keep fire truck turnaround area on the easterly portion of the site open during peak periods for motorists who need to turn around (due to parking aisle spaces being full).*



- Stop Sign

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Figure ES-1

Project Access Recommendations

I. INTRODUCTION

PURPOSE

This study analyzes the transportation impacts associated with the proposed Sacred Oaks Healing Center, which would be located in unincorporated Yolo County (refer to Figure 1 for project vicinity map). The Sacred Oaks Healing Center would be located on the north side of County Road (CR) 31 between CR 93A and CR 95 approximately five miles from the west City of Davis limits.

This study provides a comprehensive analysis of the proposed project including operations at the project driveway under existing and cumulative conditions, collision history on CR 31, sight distance at the project driveway intersection with CR 31, on-site circulation, and parking.

PROJECT DESCRIPTION

Figure 2 shows the Sacred Oaks Healing Center location in the context of the study area. The proposed project is a regional treatment facility for Native American youth with substance abuse and related disorders. It would consist of 32 beds and 70 employees. A single project driveway on CR 31 would be provided to the site, which is currently undeveloped.

ANALYSIS METHODOLOGIES

This study analyzes traffic operating conditions at the project driveway using level of service (LOS) and delay as the primary measures of operational performance. Vehicle LOS is a qualitative measure of traffic flow from the perspective of motorists and are an indication of the comfort and convenience associated with driving. The LOS analysis uses procedures identified in the *2010 Highway Capacity Manual* (HCM) published by the Transportation Research Board of the National Academies of Science. The HCM defines six levels of service ranging from LOS A (representing free-flow vehicular traffic conditions with little to no congestion) to LOS F (oversaturated conditions where traffic demand exceeds capacity resulting in long queues and delays).

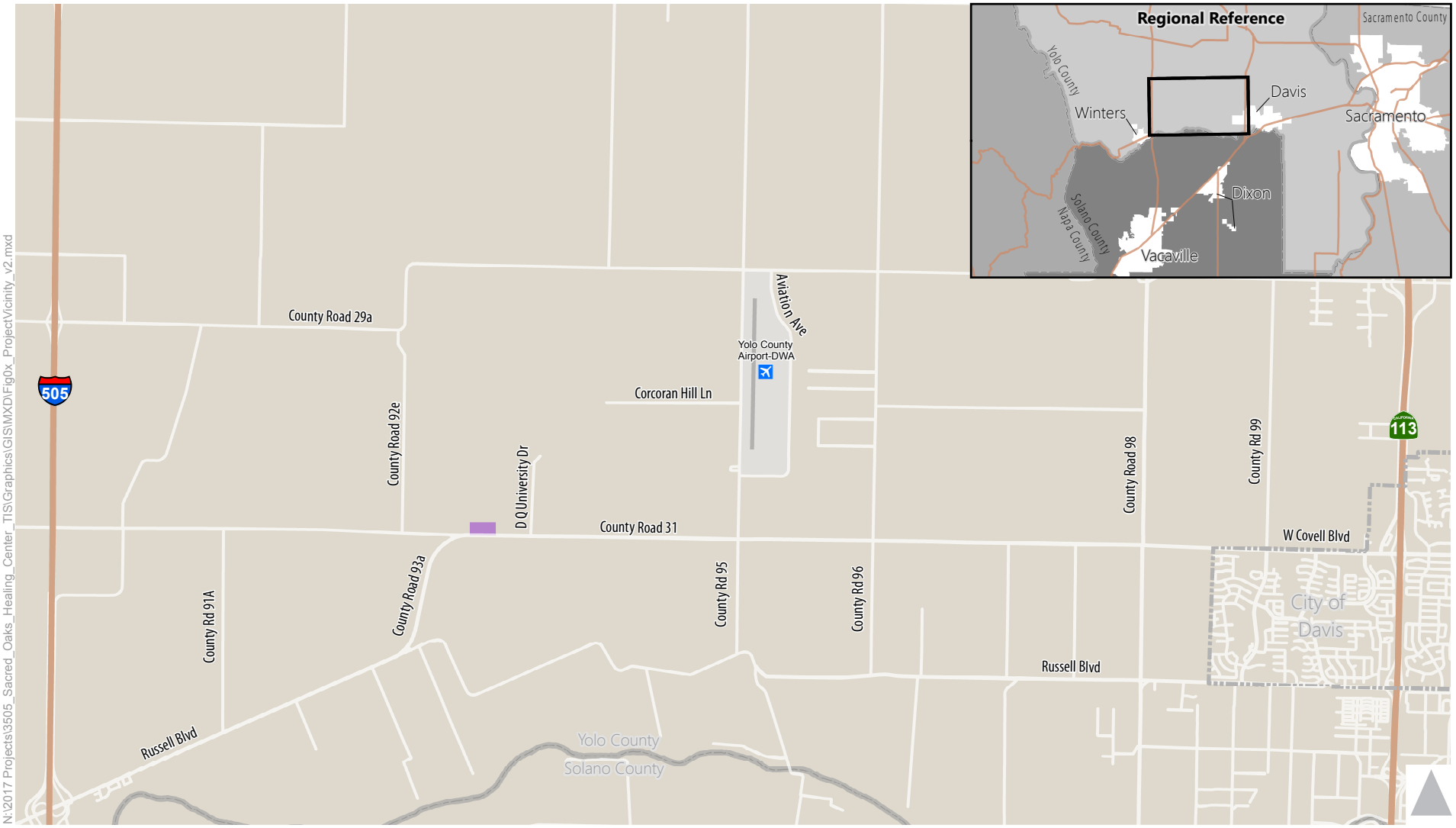


Figure 1

Project Vicinity

Figure 2

Study Area

The operations analysis at the unsignalized project driveway intersection on CR 31 estimates the average delay exiting the project site and for all vehicles passing through the intersection. Unsignalized intersection LOS definitions are shown in Table 1.

TABLE 1:
UNSIGNALIZED LEVEL OF SERVICE DEFINITIONS

Level of Service	Description	Average Control Delay[1]
A	Little or no delay.	≤ 10
B	Short traffic delay.	>10 to 15
C	Average traffic delays.	>15 to 25
D	Long traffic delays.	>25 to 35
E	Very long traffic delays.	>35 to 50
F	Extreme traffic delays with intersection capacity exceeded	>50

Notes: [1]Average control delay presented in seconds per vehicle.
Source: *Highway Capacity Manual* (Transportation Research Board, 2010).

STANDARDS OF SIGNIFICANCE

According to Goal CI-3.1 of the *Yolo County General Plan*, the level of service policy for the study section of CR 31 is to maintain LOS C or better.

II. EXISTING CONDITIONS

This chapter describes the existing transportation system within the study area.

DATA COLLECTION

The following data on CR 31 was collected from Yolo County for purposes of documenting existing conditions:

- Average Daily Traffic (ADT) during periods in which trucking/farming activity is average or above average.
- Peak hours of travel including directionality, and heavy vehicle percentages.
- Median and 85th percentile vehicle speed.
- Vehicle collisions by direction, location, type, severity, and primary collision factor reported on CR 31 from CR 93A to CR 95 during the last ten years.

ROADWAY SYSTEM

The following roadway provides access to the site.

- County Road 31 is defined in the Yolo County General Plan as a major two-lane county road. It extends in an east-west direction between the cities of Davis and Winters. Within Davis, it is known as West Covell Boulevard. Within the study area, it is a two-lane undivided roadway with passing permitted in certain sections. A Class II bikeway is present on both sides of the street (refer to Bicycle/Pedestrian System description for detailed description).

TRAFFIC VOLUMES ON CR 31

Table 2 summarizes the existing average daily traffic (ADT) on CR 31 between CR 93A and CR 95. This data was collected in July 2013. Although summer conditions are not typically used for evaluating roadway network operations (due to schools not being in session), comparisons of this data to November 2008 counts revealed slightly greater (i.e., about seven percent) levels of traffic. This is likely due to the effects of agricultural and aggregate truck operators who tend to be busier during summer months. As shown, CR 31 carries approximately 4,900 vehicles per day during summer months.

TABLE 2: EXISTING AVERAGE DAILY TRAFFIC (ADT) ON CR 31

Date	Daily Traffic Volume[1]
Tuesday, July 16, 2013	4,840
Wednesday, July 17, 2013	4,880
Thursday, July 18, 2013	4,930
Average	4,890

Notes: [1] Daily traffic volumes rounded to nearest 10 vehicles.
Source: Yolo County, July 2013

Table 3 presents the AM, Midday, and PM peak hour traffic volumes on CR 31 between CR 93A and CR 95 for the three weekdays counted in July 2013.

TABLE 3: EXISTING PEAK HOUR TRAFFIC VOLUMES ON CR 31

Date	Peak Hour	Direction		
		EB	WB	Both Directions
Tuesday, July 16, 2013	7:00-8:00 AM	203	103	306
	8:00-9:00 AM	183	132	315
	12:00-1:00 PM	105	124	229
	4:00-5:00 PM	196	228	424
	5:00-6:00 PM	169	251	420
Wednesday, July 17, 2013	7:00-8:00 AM	194	101	295
	8:00-9:00 AM	179	106	285
	12:00-1:00 PM	143	144	287
	4:00-5:00 PM	197	224	421
	5:00-6:00 PM	179	212	391
Thursday, July 18, 2013	7:00-8:00 AM	181	87	268
	8:00-9:00 AM	179	95	274
	12:00-1:00 PM	133	141	274
	4:00-5:00 PM	203	203	406
	5:00-6:00 PM	167	234	401
Average	7:00-8:00 AM	193	97	290
	8:00-9:00 AM	180	111	291
	12:00-1:00 PM	127	136	263
	4:00-5:00 PM	199	218	417
	5:00-6:00 PM	172	232	404

Source: Yolo County, 2013

Based on the peak hour data, the three time periods below were selected for study. These periods represent either the greatest volume of traffic on CR 31 and/or the greatest volume of project-related trip generation (as discussed in the following chapter):

- Weekday AM peak hour from 7:00 – 8:00 AM
- Weekday Midday peak hour from 12:00 – 1:00 PM
- Weekday PM peak hour from 4:00 – 5:00 PM

During the AM peak hour, about two-thirds of traffic on CR 31 is traveling eastbound. During the Midday and PM peak hours, 52 percent of traffic on CR 31 is traveling westbound.

VEHICLE SPEEDS ON CR 31

The posted speed limit along the study segment of CR 31 is 55 miles per hour (MPH). During the July 2013 counts, vehicle speeds were also recorded. In the eastbound direction, the 85th percentile speed (i.e., speed at which 85 percent of vehicles are traveling at or below) was 66 MPH in the eastbound direction and 63 MPH in the westbound direction. These values exceed the posted speed limit by 11 MPH and 8 MPH, respectively. The median speed was 60 MPH in the eastbound direction and 58 MPH in the westbound direction.

COLLISION HISTORY

Reported collisions on CR 31 were provided from March 2006 through February 2016. During this ten year period, a total of 37 collisions occurred in the study area, as shown in Table 4. Key conclusions from this table are described below:

- Over one-third of collisions occurred within (or very near) the CR 31/CR 95 intersection. Most involved injuries including one fatality and were caused by auto right-of-way violations. Dedicated left-turn lanes were recently constructed on CR 31 at this intersection.
- Along the project frontage, the only two reported collisions involved vehicles running into fixed objects due to travel at unsafe speeds or improper turn movements.

TABLE 4: COLLISION HISTORY							
Location	**Number of Collisions[1]**					**Most Common Collision Type**	**Most Common Primary Collision Factor (PCF)**
	10-year Total	**Average Per Year**	**Total Injury Collisions**	**Total Fatal Collisions**	**Total Involving Peds or Bicyclists**		
1. CR 31/CR 93A Intersection	1	0.1	0	0	0	Broadside	Auto R/W Violation
2. CR 31/CR 95 Intersection	14	1.4	12	1	0	Broadside	Auto R/W Violation
3. Segment of CR 31 between Road 93A and site entry[2]	2	0.2	1	0	0	Hit Object	Improper Turning Unsafe Speed
4. Segment of CR 31 between site entry and Road 95[2]	20	2	10	2	1	Hit Object	Improper Turning

Notes:
[1] Total number of reported collisions from March 2006 through February 2016.
[2] Segment of CR 31 between Road 93A and site entry is approximately 1,370 feet (0.26 miles). Segment of CR 31 from site entry to Road 95 is approximately 9,820 feet (1.86 miles).
Source: Fehr & Peers, 2017

BICYCLE/PEDESTRIAN SYSTEM

Bicycle travel occurs on CR 31 within the study area. Signage is posted (see photo on next page) indicating that CR 31 is a "bike route" and that motorists should share the street with bicyclists. Figure CI-3B of the Yolo County General Plan identifies CR 31 as a Class II bike lane. Along the project frontage, the bikeway is present though its width varies most likely due to previous pavement overlays. Page 3 of the *Yolo County Bikeway Transportation Plan* (2013) specifies that in agricultural areas (such as along this segment of CR 31), bicycle routes shall be designated, striped, and signed in an alternative manner (i.e., from the CA MUTCD or HDM) that considers and allows for the movement of slow moving and wide agricultural equipment.

Sidewalks are not present within the study area, which is expected given the site's rural setting.

Bikeway signage along CR 31 east of project site.

TRANSIT SYSTEM

Yolo County operates fixed route busing services throughout much of Yolo County. Two bus routes (220 and 220C) operate along CR 31, connecting the cities of Davis and Winters. However, the nearest bus stop is over three miles away, suggesting that project employees are unlikely to take public transit to access the site.

III. PROJECT TRAVEL CHARACTERISTICS

This chapter describes the expected travel characteristics of the proposed project.

PROJECT DESCRIPTION AND OPERATIONS

The proposed Sacred Oaks Healing Center would have 32 beds for patients and employ 70 persons. Patients would stay on-site continuously for a number of days. Employees would work in several defined shifts. Accordingly, the majority of trips would be made by employees, but with occasional trips also made by visitors, deliveries, and newly admitted/released patients.

TRIP GENERATION

For most proposed land developments, trip generation rates published in the *Trip Generation Manual, 9th Edition* (Institute of Transportation Engineers, 2012) are used. However, the manual does not contain a land use category that adequately describes the expected operations of the proposed project. In these instances, the manual recommends that a trip generation survey be conducted at a comparable location.

The Healing Lodge of the Seven Nations, which is located in Spokane Valley, Washington, was determined to be an ideal candidate (among those listed at: https://www.ihs.gov/yrtc/treatment/) for a trip generation survey for several reasons. First, it is very similar in size (i.e., each will have 32 beds), operations and staffing levels to the proposed project. Second, it appears to be relatively new, well-maintained and with a diversity of on-site activities, similar to the proposed project. Third, it is located somewhat close to, but not within the city limits of an urbanized area, similar to the proposed project (though it is noted that the proposed project is slightly further from Davis than this comparable site is to Spokane). Fourth, its driveway design enables traffic data to be accurately and efficiently collected.

Fehr & Peers retained IDAX, a count vendor based in Seattle WA to perform the counts. They placed both a video camera and a hose tube at the Healing Lodge of the Seven Nations driveway and collected data beginning on Tuesday, January 24, 2017 through Thursday, January 27, 2017, inclusive. Refer to Appendix A for count data.

The 24-hour traffic count (both directions) was 191 vehicles on Tuesday, 204 vehicles on Wednesday, and 224 vehicles on Thursday, for a three-day average of 206 vehicles.

Chart 1 shows the hourly distribution of inbound and outbound traffic at this facility, averaged over the three-day count period. It shows a spike in inbound traffic from 7 to 8 AM. Outbound traffic is more dispersed throughout the afternoon/evening.

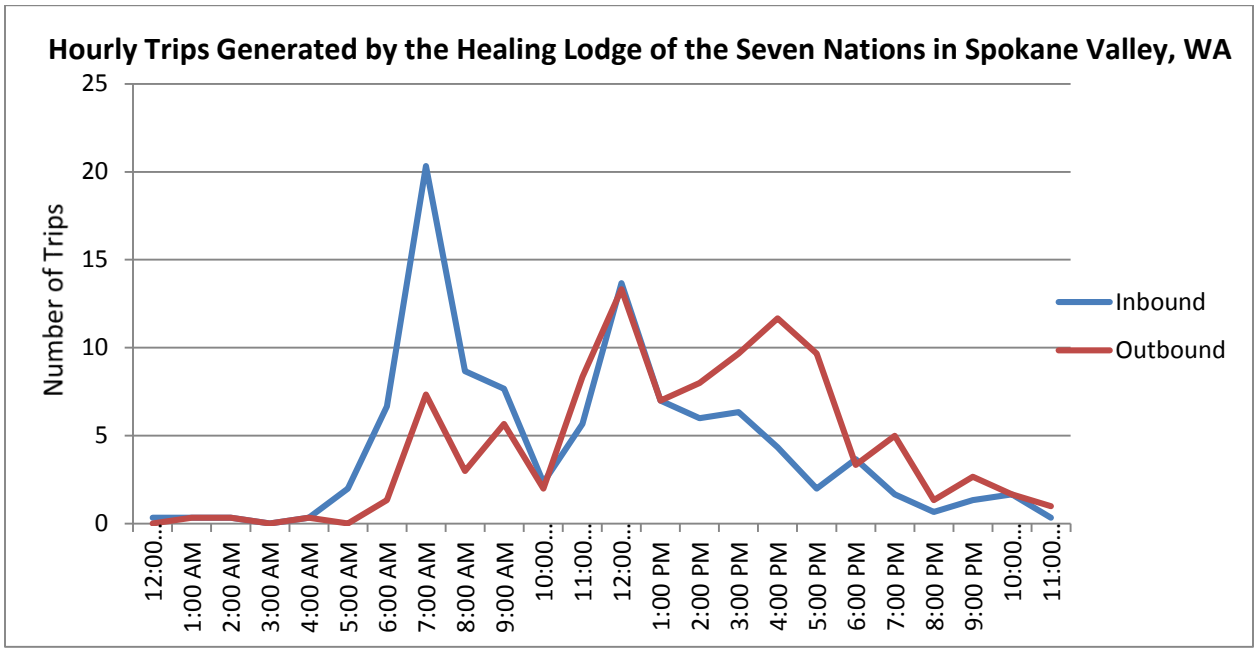


Chart 1: Trip generation averaged over three weekdays in January 2017

Table 5 tabulates the AM, Midday, and PM peak hour trips and average daily trips for three weekdays at the Healing Lodge of the Seven Nations in Spokane Valley facility in January 2017. As shown, the peak hours of travel occur during the AM peak hour (7:00 – 8:00 AM) and the Midday peak period (12:00 – 1:00 PM).

Given the similarity in size, amenities, and location, it is believed that the proposed project's trip generation would be similar to that of The Healing Lodge of the Seven Nations. Table 6 displays the proposed project's estimated daily, AM peak hour, Midday peak hour, and PM peak hour trip generation based on data collected from that facility.

Table 6 indicates that the proposed project would generate 206 daily trips, 30 AM peak hour trips, 27 Midday peak hour trips, and 18 PM peak hour trips. These values slightly exceed those contained in Table 5 because they consider that the site's peak hour of trip generation may occur during any consecutive 60-minute period, and not just on the hour. The values shown in Table 6 are considered conservative because the proposed project would employ 10 fewer persons than The Healing Lodge of the Seven Nations, upon which the trip generation was based.

TABLE 5: VEHICLE TRIPS GENERATED AT THE HEALING LODGE OF THE SEVEN NATIONS IN SPOKANE VALLEY, WA

Date	Hourly Volume			
	Peak Hour	Outbound	Inbound	Both Directions
Tuesday, January 24 2017	7:00-8:00 AM	8	21	29
	8:00-9:00 AM	3	5	8
	12:00-1:00 PM	9	10	19
	4:00-5:00 PM	13	4	17
	5:00-6:00 PM	8	1	9
Wednesday, January 25 2017	7:00-8:00 AM	7	16	23
	8:00-9:00 AM	3	11	14
	12:00-1:00 PM	15	13	28
	4:00-5:00 PM	11	2	13
	5:00-6:00 PM	7	1	8
Thursday, January 26 2017	7:00-8:00 AM	7	24	31
	8:00-9:00 AM	3	10	13
	12:00-1:00 PM	16	18	34
	4:00-5:00 PM	3	2	5
	5:00-6:00 PM	14	4	18
Average	7:00-8:00 AM	7	20	28
	8:00-9:00 AM	3	9	12
	12:00-1:00 PM	13	14	27
	4:00-5:00 PM	9	3	12
	5:00-6:00 PM	10	2	12

Note: Busiest peak hours of travel are shown
Source: Fehr & Peers, 2017

TABLE 6: PROPOSED PROJECT TRIP GENERATION

Land Use	Daily	AM Peak Hour			Midday Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
Sacred Oaks Healing Center	206	22	8	30	14	13	27	4	14	18

Notes:
- AM peak hour occurs from 7 to 8 AM or 7:15 - 8:15 AM. Midday peak hour occurs from 12 to 1 PM. PM peak hour occurs from 4:00 - 5:00 PM or 4:30 - 5:30 PM.
- Source is trip generation data from The Healing Lodge of the Seven Nations in Spokane Valley, WA.
Source: Fehr & Peers, 2017

TRIP DISTRIBUTION

The project's expected distribution of trips would depend primarily on the residence location of employees who work at the facility. Since specific employee residence locations are not known at this time, this analysis employs a typical approach, whereby employee residence locations are estimated based on the overall distribution of population.

Data from the *2011-2015 American Community Survey (ACS) 5-Year Estimates* (Source: U.S. Census Bureau) contains the following data pertaining to persons employed in Yolo County (see Appendix B):

- 64 percent of Yolo County residents work in Yolo County.
- The mean travel time to work is 22 minutes
- 53 percent of workers have a commute of 20 minutes or less

Based on this data, it is estimated that 55 percent of employees will reside within a 20-mile radius of the project, and the remaining 45 percent will reside within a 20-to-30-mile radius of the project site. This distribution is derived from assumptions and calculations relating to travel time/distance, peak period congestion in the Sacramento region (i.e., increases travel time), the Yolo County border, and other travel considerations.

Figure 3 shows major population centers within a 20-mile radius of the project site, as well as population centers/density within a 20 to 30-mile radius of the project site. As shown, the majority of population is distributed to/from the east of the project. Using the population percentages in Figure 3 and the proportion of employees expected to live within a 20-mile radius versus within a 20 to 30-mile radius, the following trip distribution was calculated (see Appendix B):

Directionality	Percentage
To/from the east on CR 31 (toward State Route 113)	71%
To/from the west on CR 31 (toward Interstate 505)	29%
	100%

The above percentages reflect the likely routes to be taken for trips made to/from the east versus west. Trips to/from the east will access CR 31 via State Route (SR) 113, whereas trips from the west will access CR 31 via Interstate 505. Trips from the south (i.e., Dixon) would also likely access the site via SR 113 or County Road 98.

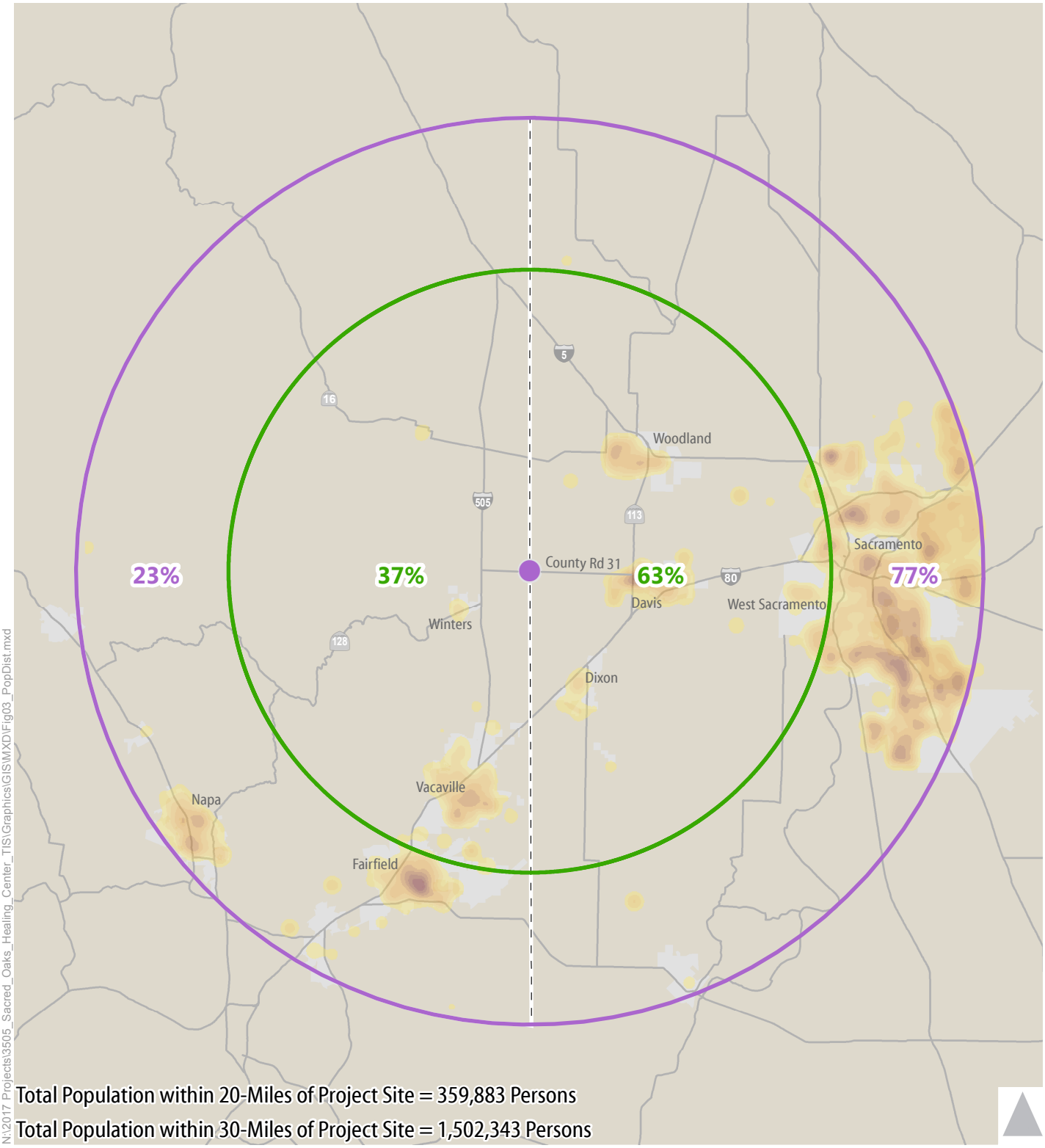


Figure 3

Population Distribution- Within 20 & 30-Mile Radius

IV. EXISTING PLUS PROJECT CONDITIONS

This chapter analyzes the potential impacts of the proposed project on the surrounding roadway network under existing plus project conditions.

TRAFFIC FORECASTS

Chart 2 shows that the project would add more trips to CR 31 during the AM peak hour (7 - 8 AM) and Midday (12 – 1 PM) peak hour than during the evening peak hours. However, those hours experience less traffic on CR 31 than during the evening peak hours. Accordingly, the project's peak hours of travel (i.e., 7 – 8 AM and 12 – 1 PM) would not overlap with the overall busiest periods of travel on CR 31. However, it is noted that traffic on CR 31 is fairly constant from 7 AM to 6 PM.

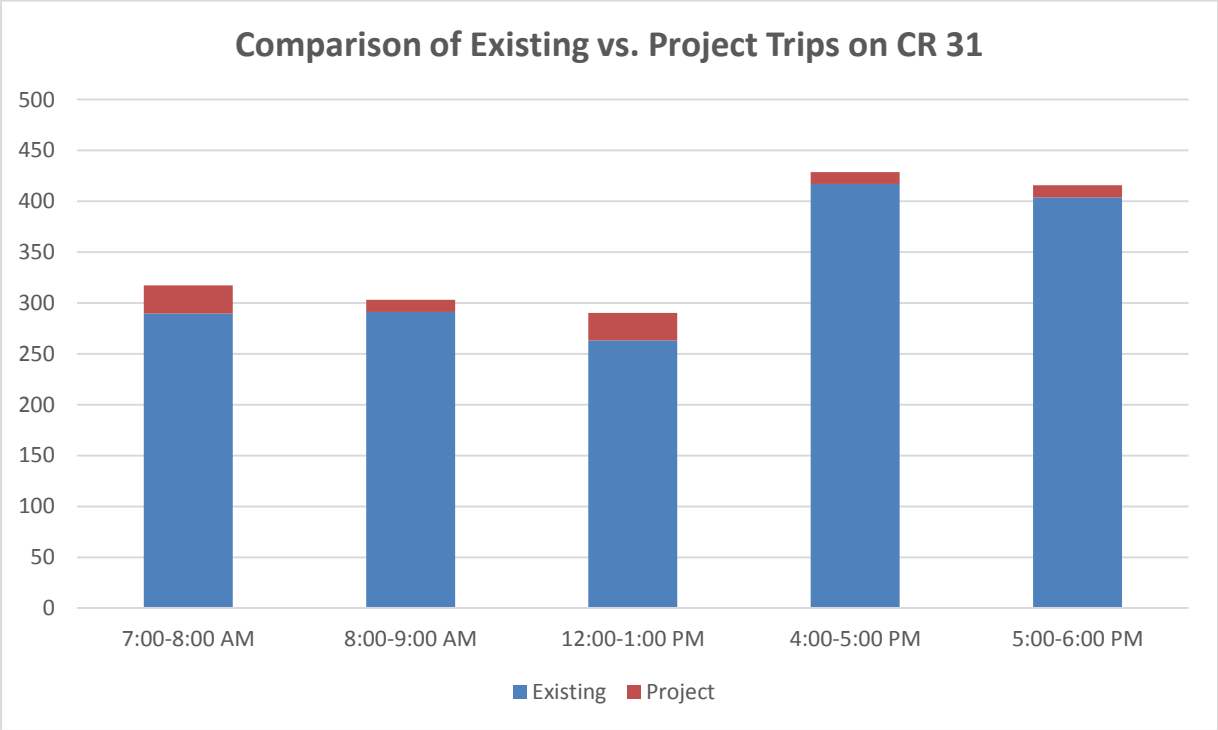


Chart 2: Project trips overlaid on top of existing peak hour traffic volumes

Table 7 summarizes average daily traffic on CR 31 near the project site under Existing plus Project Conditions. The project's daily trip generation is added to the roadway network in accordance with the trip distribution.

TABLE 7: EXISTING PLUS PROJECT AVERAGE DAILY TRAFFIC (ADT) ON CR 31

Existing ADT	Project ADT		Existing Plus Project ADT	
	West of Project Site	East of Project Site	West of Project Site	East of Project Site
4,890	60	150	4,950	5,040

Notes:
ADT = Average daily traffic. All values rounded to the nearest 10 vehicles.

The proposed project would cause a 1.2 percent increase in the ADT on CR 31.

Table 8 displays peak hour traffic on CR 31 east and west of the project site under existing plus project conditions. The proposed project would cause a 1.7 percent increase in peak hour traffic during the AM and Midday peak hours, and a 1.3 percent increase during the PM peak hour. Figure 4 shows traffic forecasts at the project driveway under existing plus project conditions for the three peak hours under study.

TABLE 8: EXISTING PLUS PROJECT PEAK HOUR TRAFFIC ON CR 31

Peak Hour	Existing Peak Hour Traffic Volumes	Project Trips		Existing Plus Project	
		West of Project Site	East of Project Site	West of Project Site	East of Project Site
AM	290	9	21	299	311
Midday	263	8	19	271	282
PM	404	5	13	409	417

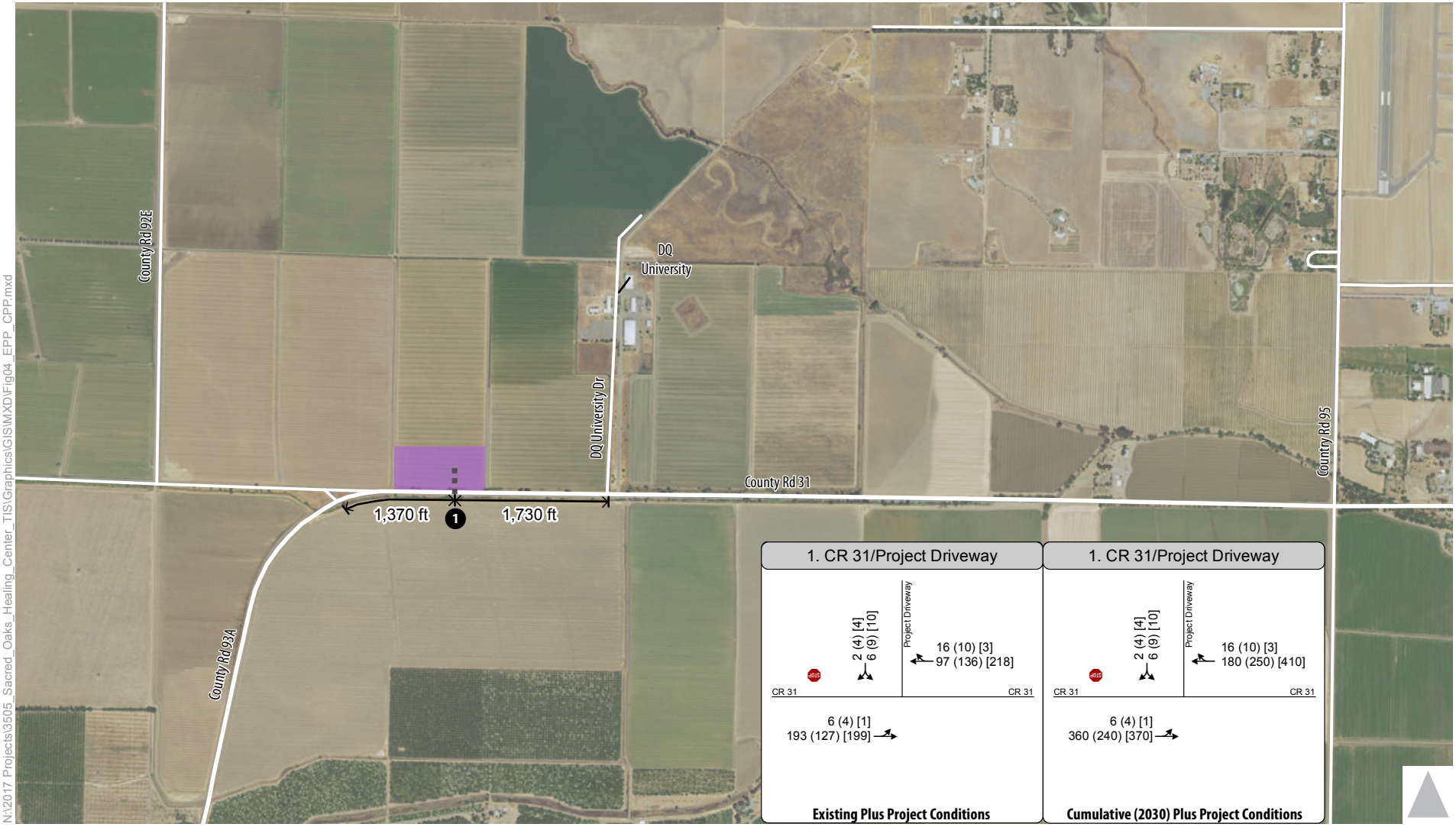
INTERSECTION OPERATIONS

Table 9 displays the average delay and LOS at the study intersection under existing plus project conditions. Refer to Appendix C for technical calculations. As shown, the worst-case movement (i.e., stop-controlled southbound left/right lane) would operate at an acceptable LOS B during each peak hour. The intersection would operate at an overall LOS A with the average delay per vehicle at 0.5 seconds.

TABLE 9: EXISTING PLUS PROJECT LEVEL OF SERVICE RESULTS

Intersection	Control	Minor-Street Approach[1]	AM Peak Hour		Midday Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS
CR 31 / project dwy	SSSC	SB left/right	10.4 (0.5)	B (A)	10.1 (0.5)	B (A)	11.4 (0.5)	B (A)

Notes:
[1] SSSC = Side Street Stop Control.
The delay and LOS is reported for the worst case movement and for the entire intersection (shown in parentheses).



1 Study Intersection
Stop Sign
Travel Lane
AM (Midday) [PM] Peak Hour Traffic Volumes
Project Driveway
Project Site

Figure 4

Peak Hour Traffic Volumes and Lane Configurations

A signal warrant analysis (for peak hour conditions) was conducted for the CR 31/Project Driveway intersection under existing plus project conditions during the AM, Midday, and PM peak hours (see Appendix C). Charts 3 through 5 indicate that the peak hour warrant was not met for this intersection during any of these peak hours.

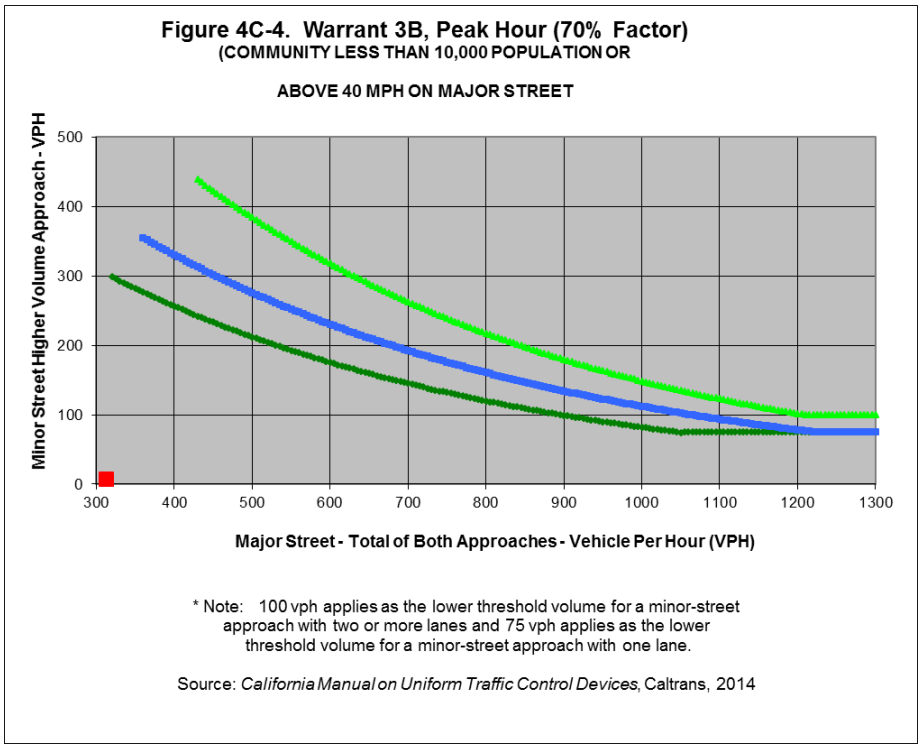


Chart 3: Existing Plus Project AM Peak Hour Conditions

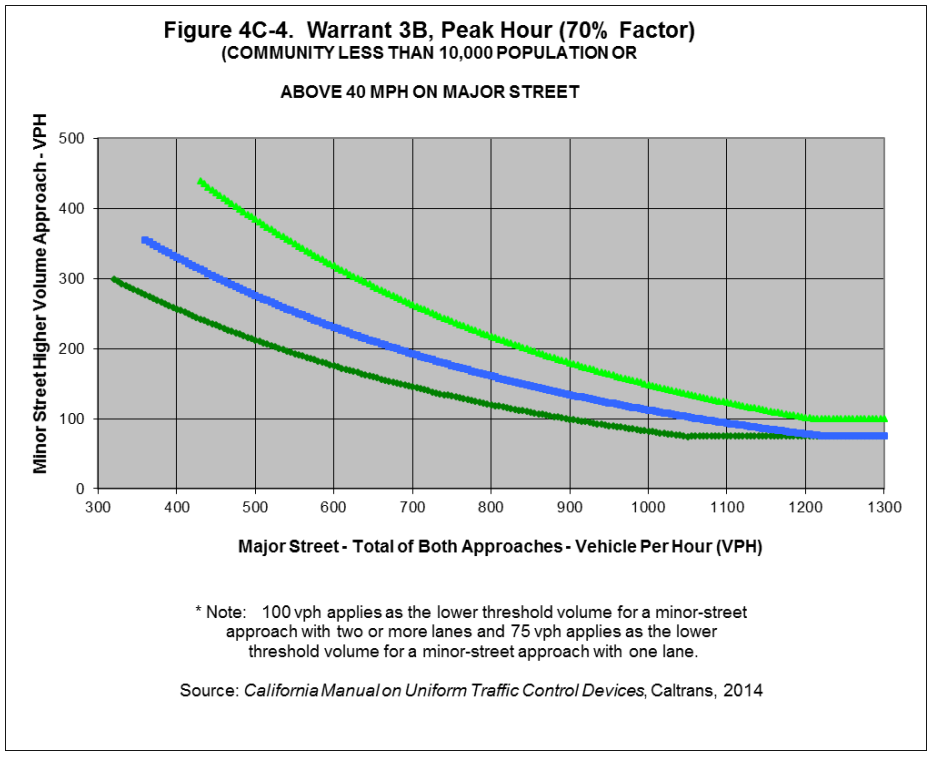


Chart 4: Existing Plus Project Midday Peak Hour Conditions

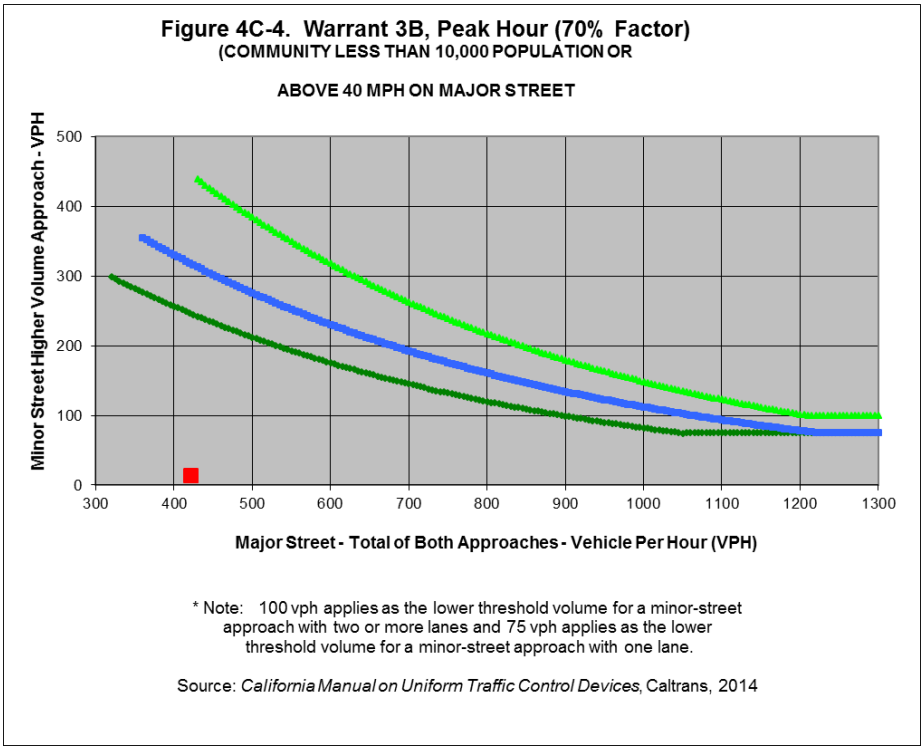


Chart 5: Existing Plus Project PM Peak Hour Conditions

EVALUATION OF NEED FOR LEFT-TURN LANE ON CR 31

A Policy on Geometric Design of Highways and Streets (AASHTO, 2011) contains suggested thresholds for determining whether a dedicated left-turn lane should be constructed on a two-lane highway. Table 10 illustrates the applicable volume for a 60 mph operating speed.

As shown in Figure 4, the volumes at the project driveway intersection fall well below this threshold. For instance, during the period with the heaviest left-turn demand (i.e., AM peak hour), the total advancing volume is 199 vehicles (with 3 percent being left-turns) and the total opposing volume is 113 vehicles. These values are well below the thresholds in Table 10.

TABLE 10: THRESHOLDS FOR LEFT TURN LANES ON TWO-LANE HIGHWAYS

Opposing Volumes (veh/hr)	Advancing Volumes (veh/hr)			
	5% Left Turns	10% Left Turns	20% Left Turns	30% Left Turns
60 MPH Operating Speed				
800	230	170	125	115
600	290	210	160	140
400	365	270	200	175
200	450	330	250	215
100	505	370	275	240

Source: AASHTO A Policy on Geometric Design of Highways and Streets (pg 9-132), 2011

A secondary evaluation was performed whereby a statistical analysis was used to determine the probability that a vehicle desiring to turn left into the project driveway would need to stop in the eastbound through lane to yield to opposing through/right traffic. The analysis details are described below:

- The analysis focused on the peak 15-minutes of the AM peak hour. During this period, three (3) vehicles would be expected to turn left into the project driveway. An eastbound left-turning vehicle would typically have to wait (versus perform a turn) if the approaching vehicle would arrive within five seconds or less (per the 2010 HCM).
- A random arrival profile was created for the eastbound left-turn and westbound through/right movements during the peak 15-minute arrival period. Random arrivals are reasonable given that vehicles turn onto CR 31 from various roadways and passing is permitted. The approach also considers peaking on CR 31 within the AM peak hour.

The results (see Appendix C) showed that during the peak 15-minutes of the AM peak hour for 20 theoretical weekdays, 45 percent of those weekdays would experience a vehicle that would need to stop on CR 31 and wait for an oncoming vehicle to pass before turning left.

V. CUMULATIVE PLUS PROJECT CONDITIONS

This chapter analyzes the potential impacts of the proposed project on the surrounding roadway network under cumulative conditions.

TRAFFIC FORECASTS

According to the Yolo County General Plan, PM peak hour traffic on CR 31 west of CR 95 is projected to increase by 87 percent over existing conditions by 2030. This growth rate was applied to the existing volumes to yield cumulative background conditions for this study. Project trips were then added to those volumes using the same trip generation/distribution procedures described in Chapter III.

Table 11 displays the ADT on CR 31 near the project site under Cumulative plus Project Conditions. Figure 4 shows traffic forecasts at the project driveway intersection under cumulative plus project conditions for the three peak hours under study.

TABLE 11: CUMULATIVE PLUS PROJECT AVERAGE DAILY TRAFFIC (ADT) ON CR 31

Cumulative No Project ADT	Project ADT		Cumulative Plus Project ADT	
	West of Project Site	East of Project Site	West of Project Site	East of Project Site
9,140	60	150	9,200	9,290

Notes:
ADT = Average daily traffic. All values rounded to the nearest 10 vehicles.

INTERSECTION OPERATIONS

Figure 2 displays the average delay and LOS at the study intersection under cumulative plus project conditions. Refer to Appendix C for technical calculations. As shown, the worst-case movement (i.e., stop-controlled southbound left/right lane) would operate at an acceptable LOS B or C during each peak hour. The intersection would operate at an overall LOS A with the average delay per vehicle being less than 0.5 seconds.

TABLE 12: CUMULATIVE PLUS PROJECT LEVEL OF SERVICE RESULTS

Intersection	Control	Minor-Street Approach[1]	AM Peak Hour		Midday Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS
CR 31 / project dwy	SSSC	SB Left/Right	12.6 (0.3)	B (A)	12.7 (0.4)	B (A)	16.1 (0.4)	C (A)

Notes:
[1] SSSC = Side Street Stop Control.
The delay and LOS is reported for the worst case movement and for the entire intersection (shown in parentheses).

A signal warrant analysis (for peak hour conditions) was conducted for the CR 31/Project Driveway intersection under cumulative plus project conditions during the AM, Midday, and PM peak hours. Charts 6 through 8 indicate that the peak hour warrant was not met for this intersection during any of these peak hours.

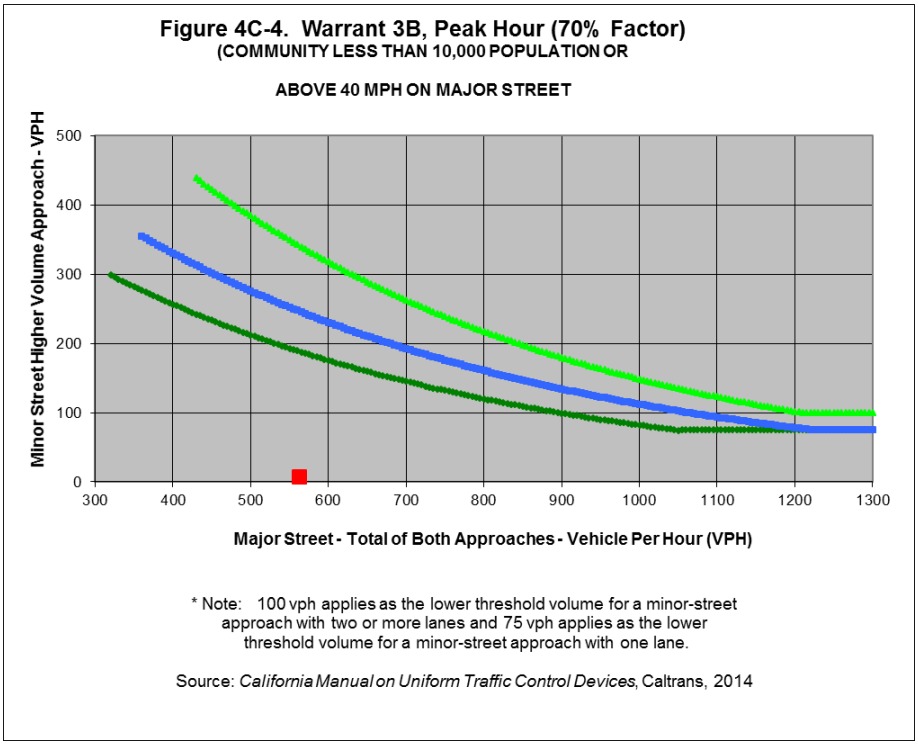


Chart 6: Cumulative Plus Project AM Peak Hour Conditions

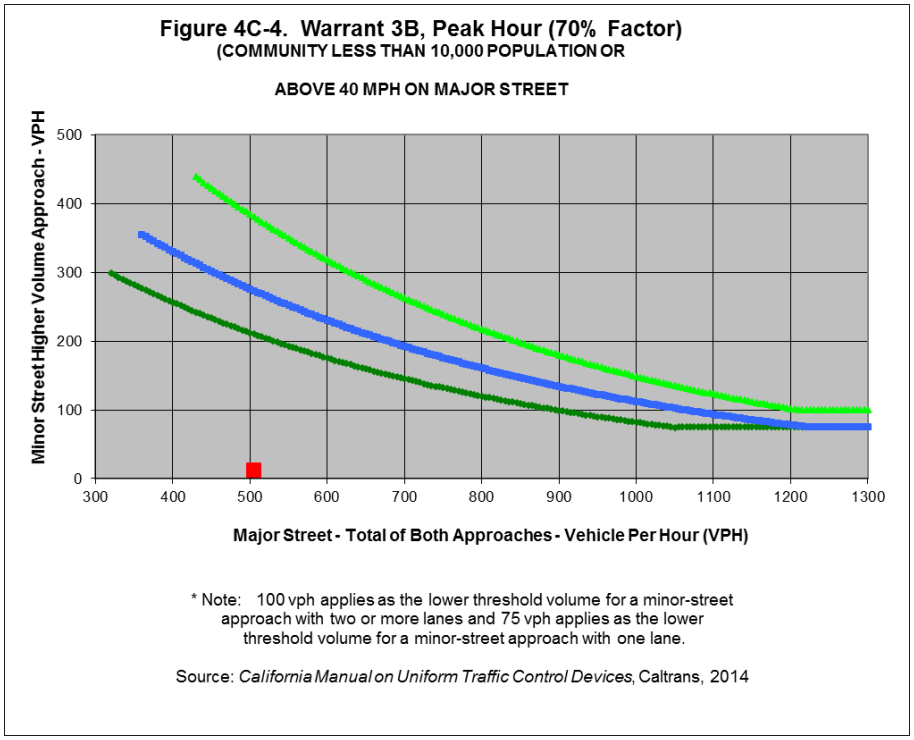


Chart 7: Cumulative Plus Project Midday Peak Hour Conditions

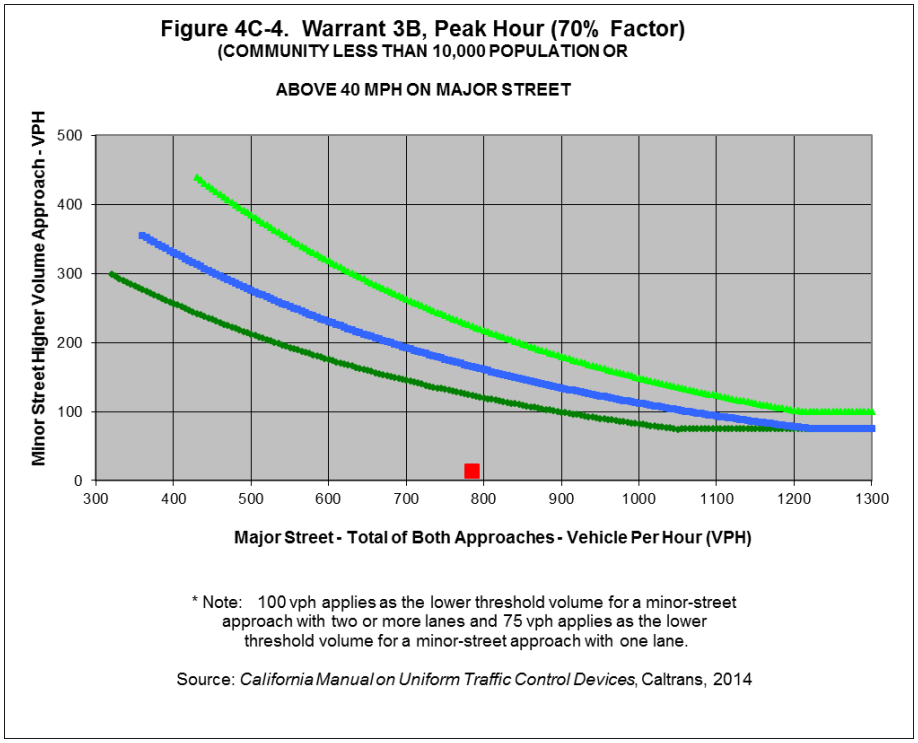


Chart 8: Cumulative Plus Project PM Peak Hour Conditions

EVALUATION OF NEED FOR LEFT-TURN LANE ON CR 31

Cumulative plus project traffic forecasts at the project driveway intersection fall well below the AASHTO threshold for warranting a dedicated left-turn lane on a two-lane highway. During the period with the heaviest left-turn demand (i.e., AM peak hour), the total advancing volume would be 366 vehicles (with 1.6 percent being left-turns) and the total opposing volume would be 196 vehicles. These values are below the thresholds in Table 10. If the opposing volume were to double, the threshold would nearly be met.

The same statistical evaluation presented in the previous chapter was also conducted under cumulative conditions to determine the probability that a vehicle desiring to turn left into the project driveway would need to stop in the eastbound through lane to yield to opposing through traffic. The results (see Appendix C) showed that during the peak 15-minutes of the AM peak hour for 20 theoretical weekdays, 65 percent of those weekdays would experience a vehicle that would need to stop on CR 31 and wait for an oncoming vehicle to pass before turning left. Without a dedicated left-turn pocket, those movements could experience an increased risk for rear-end collisions. Additionally, it is noted that a dedicated left-turn lane would also benefit eastbound motorists during the morning who may experience sun glare.

VI. REVIEW OF SIGHT DISTANCE, ON-SITE CIRCULATION AND PARKING

This chapter evaluates sight distance at the project driveway, on-site circulation, and adequacy of parking.

SIGHT DISTANCE EVALUATION

DRIVEWAY DESIGN AND SIGHT DISTANCE MEASUREMENT GUIDANCE

Page 4-11 of *Yolo County Improvement Standards (2008)* recommends that a 65 mph design speed be used for rural roadways and that a corresponding minimum stopping sight distance of 660 feet be provided. That document cites the need to also follow measurement procedures and data from the *Highway Design Manual – HDM* (Caltrans, 2015) as necessary. Page 4-11 states that stopping sight distance is to be measured from the driver's eye (at 3.5 feet above the ground) to an object 0.5-feet above the ground.

Page 400-22 of the *HDM* indicates that at rural driveways, the minimum corner sight distance shall be equal to the stopping sight distance as given in Table 201.1, which shows 660 feet as the stopping sight distance for a 65 mph design speed. Page 400-14 of the *HDM* mentions that the setback for the driver of the vehicle on the crossroad shall be a minimum of 10 feet plus the shoulder width of the major street but not less than 15 feet.

Drawing 4-13 of the *Yolo County Improvement Standards* (2008) illustrates visibility requirements at intersections and driveways. At private driveways (with a dustpan design configuration), a controlled area consisting of a right triangle with two 10-foot legs be established on each edge of the driveway at the public street. Within the controlled area, any fences, shrubs, or signs are required to be no more than 30 inches in height. Taller signs be may permitted provided that they have at least a 10-foot clearance between the ground and the bottom of the sign. Similarly, trees may be permitted provided that they have at least an 8-foot clearance between the ground and the bottom of the foliage.

Drawing 4-23 of the *Yolo County Improvement Standards* (2008) illustrates design details for driveways on rural roads. It identifies a minimum 12-foot adjacent street travel lane, a minimum 4-foot shoulder along the project frontage, and a minimum 20-foot curb return radius. The width of the driveway may vary, but should not exceed 35 feet.

EVALUATION OF PROPOSED DRIVEWAY CONFIGURATION AND SIGHT DISTANCE

According to the project site plan, the project driveway would have a width of 26 feet and have 25-foot curb return radii. Both of these dimensions are consistent with Drawing 4-23 of the *Yolo County Improvement Standards* (2008).

The following measurement of sight distance was conducted at the project driveway using aerial imagery and the project site plan:

- Adequacy of visibility for motorists exiting project driveway: this evaluation consisted of determining whether oncoming vehicles approaching the driveway traveling from the east and west on CR 31 would be continuously visible for at least 660 feet, which corresponds to a 65 mph design speed. Since CR 31 and the project driveway are flat, this evaluation is conducted for a plan view perspective using the project site plan overlaid on aerial imagery. Consistent with *HDM* guidance, the driver's eye is set back 15-feet from the edge of the travel way.

- Results: Figure 5 shows that for a motorist waiting at the limit line to turn left onto CR 31, his/her line of sight would be impeded looking to the right (for oncoming vehicles on eastbound CR 31) by two trees located immediately west of the driveway. Recommendations to address this condition are provided in the following chapter.

REVIEW OF INTERNAL CIRCULATION

Fehr & Peers reviewed internal circulation for vehicles, pedestrians, garbage trucks, and emergency vehicles. The two primary drive aisles are 25-feet wide, which is sufficient to accommodate two-way travel. The easterly drive aisle includes a 'hammerhead' extension for fire truck turnaround. This area is recommended to be open during peak periods to be a turnaround for any inbound motorists who can't find parking along this aisle (i.e., to prevent them from having to back-out of the drive aisle).

The final site plan design should ensure that garbage trucks can access the trash enclosure located on the westerly side of the site. It is not clear from the site plan whether a curb is present that would limit their ability to access the enclosure.

A meandering sidewalk is present along the periphery of the project, and includes connections into the three buildings and parking lot.

The project site plan shows a rectangular area with eight parking stalls and space for a monument, flags, or other treatments. As is discussed in Chapter VII, a formal turnaround area may be worth considering.

(E) AGRICULTURAL

1040'

SPORT COURTS

SIDEWALK

93.01'

FIRE TRUCK TURNING RADII

33.11'

31.95'

(P) BUILDING B

11,600 sf

231.7'

461.47'

(P) BUILDING A 2

11,900 sf

C

630 sf

(E) AGRICULTURAL

SIDEWALK

(P) BUILDING A 1

8,100 sf

APN 038-011-016

ZONING: POP

(P) BLDG A 3

3,700 sf

FIRE TRUCK TURNING RADII

TRASH ENCLOSURE

20'

28.2'

20'

SIGN, TYP.

8.5' TYP.

19'

25'

SIDEWALK (TYP.)

507'

300' SETBACK (YOLO COUNTY)

THERE ARE NO EXISTING STRUCTURES ON THIS SITE

67 PARKING

95'

27.5'

(P) DRIVEWAY

PROPERTY LINE

1040'

15 ft

35'

County Road 31

660 ft

660 ft

Stop Sign

Vehicle

Line of Sight

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*Note: 15ft represents distance from the edge of travel way to drivers eye.

Figure 5

Project Driveway Sight Distance

REVIEW OF PROPOSED PARKING SUPPLY

The proposed project would provide 67 on-site parking spaces, including four designated for vehicles with handicap placards. Although the project would consist of 70 employees, not all employees would be present at one time. California Indian Health Service administrators indicate that the majority of employees would work a day-shift with a reduced-sized crew working the night shift.

The number of vehicles entering and exiting The Healing Lodge of the Seven Nations in Spokane Valley, Washington was tracked in 15-minute intervals on Thursday, January 27, 2017. By summing the cumulative number of inbound minus outbound vehicles beginning at midnight, it was determined that there was a net increase of 32 additional vehicles on that site at 10 AM on January 27th. That facility has 54 designated spaces. So, if overnight parking associated with the night shift and any permanently parked vehicles (trailers, vans, etc.) were to conservatively occupy 15 spaces, then the peak parking demand would be 47 spaces.

Since the proposed project's travel characteristics are expected to be similar to that of The Healing Lodge of the Seven Nations, its peak weekday parking demand would be in 40 to 50 space range, which would represent between 60 and 75 percent of the available parking supply. Thus, the proposed project appears to have an adequate parking supply for typical weekday conditions.

VII. RECOMMENDATIONS

This chapter documents the recommendations from this study. These recommendations are separated into the following three categories.

PROJECT ACCESS

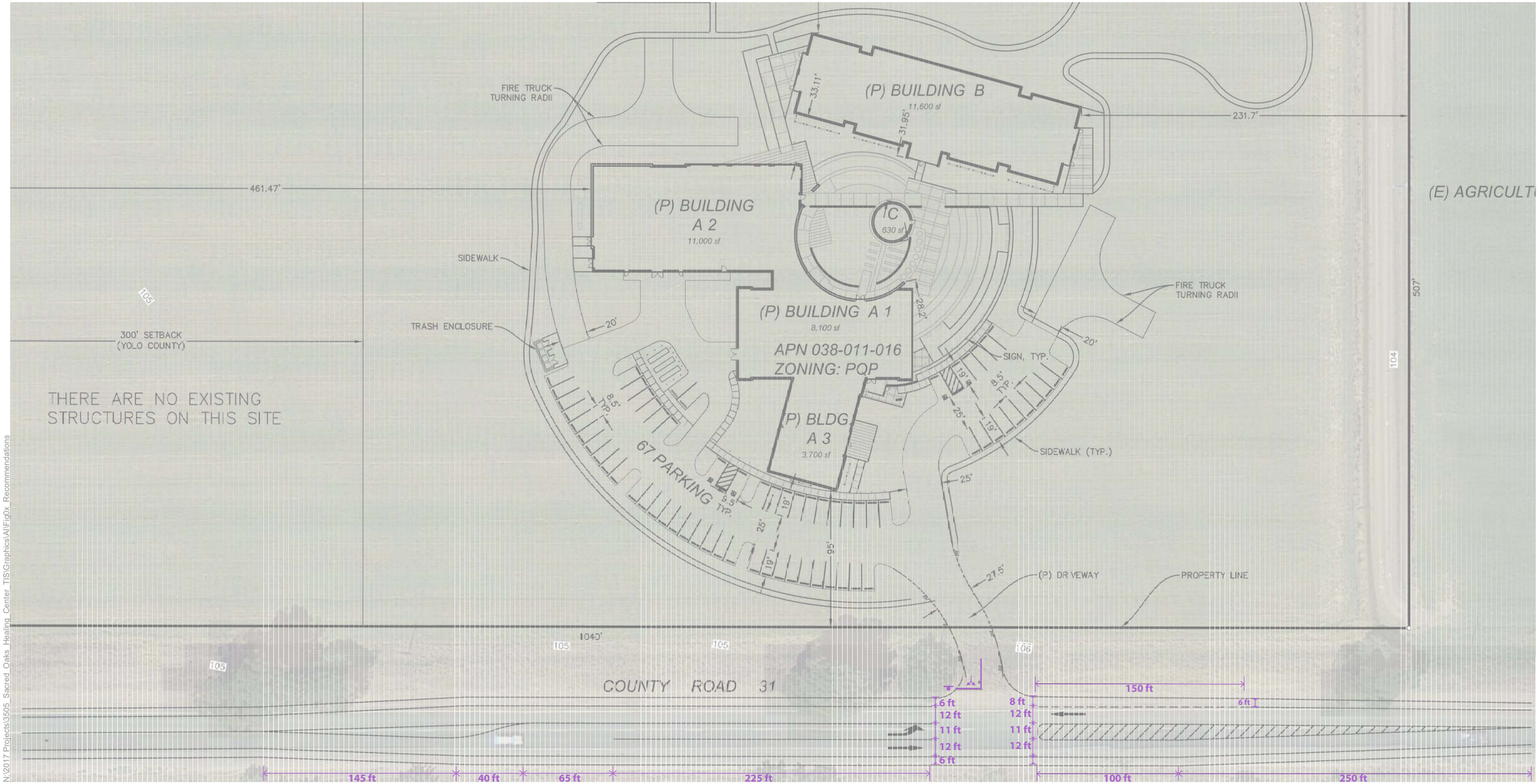
- *Construct a dedicated eastbound left-turn lane on CR 31 at the project driveway*. Refer to Figure 6 for conceptual layout of intersection (based on geometric improvements recently completed at the CR 31/CR 95 intersection). Refer to Figure 7 for modified sight distance exhibit based on widened roadway (and additional limit line setback).
- *Maintain the existing six-foot Class II bikeway on both sides of CR 31 along the project frontage*.
- *Construct a westbound right-turn deceleration taper on CR 31 at the project driveway*. This is recommended to provide deceleration opportunities for vehicles turning right into the project site. The recommended design would widen the shoulder beginning 150-foot prior to the intersection to a width of 8-foot at the intersection curb return.
- *Modify the centerline striping along CR 31 to prohibit passing in the vicinity of the project driveway*.

SIGHT DISTANCE

- *Remove the two trees located directly west of the project driveway*. However, if subsequent discussions between Yolo County and Indian Health Services (IHS) regarding their removal determines they should remain, then they should be pruned back to remove all branches located eight feet or less above the ground (for portion of tree between its trunk and the road).
- *Once the project driveway is constructed, conduct a final review of sight distance looking to the left to ensure that the tree near the eastern project boundary does not obstruct the line of sight of oncoming vehicles. If necessary, prune any branches that obstruct that line of sight.* If vehicles can consistently be observed for at least 7.5 seconds prior to reaching the driveway, then the sight distance requirement would be met.

INTERNAL CIRCULATION

- *Consider converting the rectangular parking island located west of Building A into a more formal drop-off area (i.e., semi-circular design with some parking and monument space remaining).*
- *Ensure that garbage trucks can access the trash enclosure located on the westerly side of the site.*
- *Keep fire truck turnaround area on the easterly portion of the site open during peak periods for motorists who need to turn around (due to parking aisle spaces being full).*



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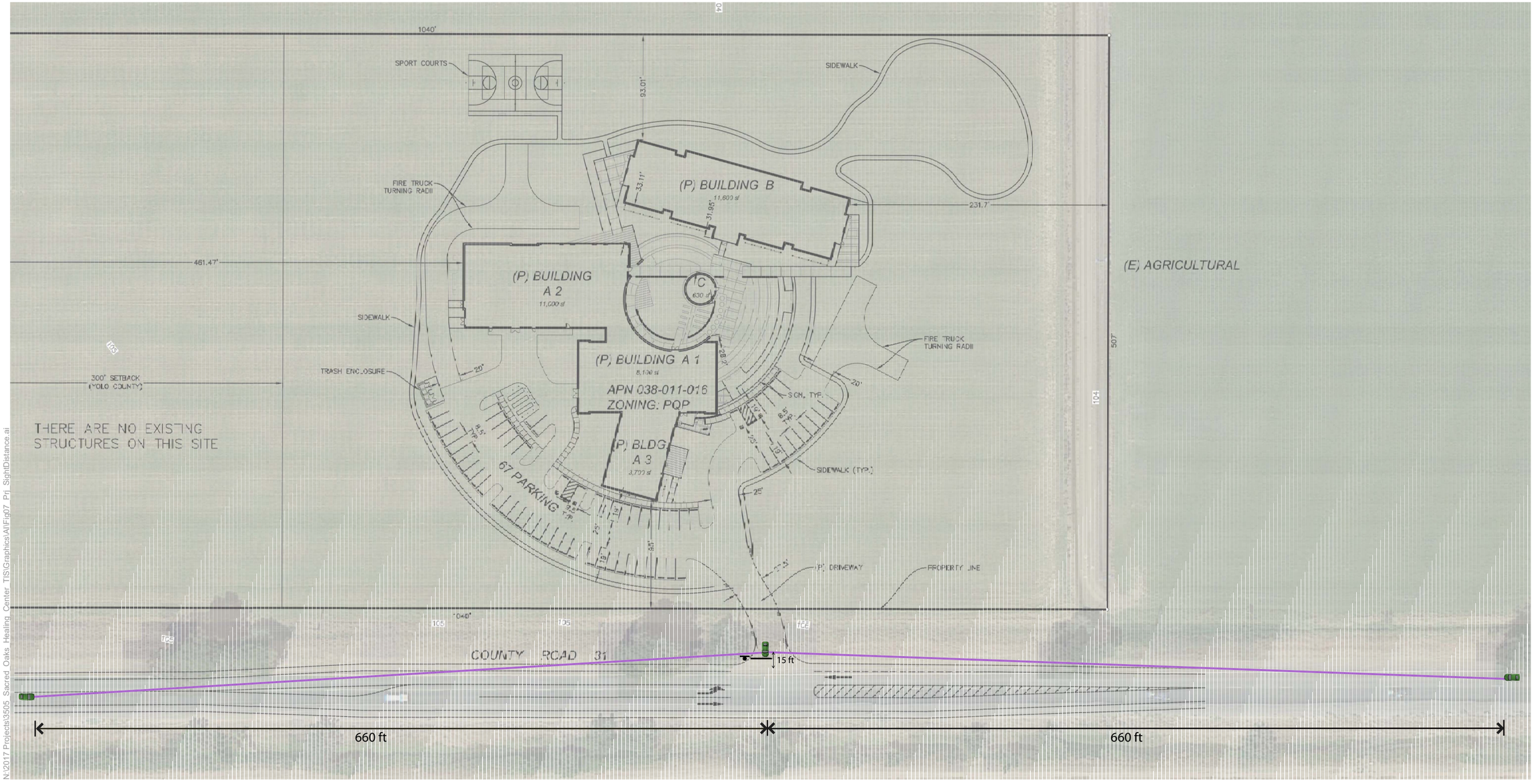
- Stop Sign

Figure 6

Project Access Recommendations



Stop Sign
Vehicle
Line of Sight

*Note: 15ft represents distance from the edge of travel way to drivers eye.

Figure 7

Project Driveway Sight Distance - with Left-Turn Lane on CR 31

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APPENDIX A:
TRAFFIC COUNTS AT SPOKANE VALLEY, WA SITE

Location: DRIVEWAY S/O E 8TH AVE
Date Range: 1/24/2017 - 1/30/2017
Site Code: 01

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	1/24/2017			1/25/2017			1/26/2017			1/27/2017			1/28/2017			1/29/2017			1/30/2017					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	0	0	0	0	1	1	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
1:00 AM	0	0	0	1	1	2	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	0	1
2:00 AM	0	0	0	0	0	0	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	0	0	1
3:00 AM	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
4:00 AM	0	0	0	1	1	2	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	0	1
5:00 AM	0	2	2	0	2	2	0	2	2	-	-	-	-	-	-	-	-	-	-	-	-	0	2	2
6:00 AM	2	7	9	1	7	8	1	6	7	-	-	-	-	-	-	-	-	-	-	-	-	1	7	8
7:00 AM	8	21	29	7	16	23	7	24	31	-	-	-	-	-	-	-	-	-	-	-	-	7	20	28
8:00 AM	3	5	8	3	11	14	3	10	13	-	-	-	-	-	-	-	-	-	-	-	-	3	9	12
9:00 AM	7	10	17	3	5	8	7	8	15	-	-	-	-	-	-	-	-	-	-	-	-	6	8	13
10:00 AM	1	2	3	4	4	8	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	2	2	4
11:00 AM	12	8	20	6	4	10	7	5	12	-	-	-	-	-	-	-	-	-	-	-	-	8	6	14
12:00 PM	9	10	19	15	13	28	16	18	34	-	-	-	-	-	-	-	-	-	-	-	-	13	14	27
1:00 PM	5	7	12	6	9	15	10	5	15	-	-	-	-	-	-	-	-	-	-	-	-	7	7	14
2:00 PM	6	6	12	8	4	12	10	8	18	-	-	-	-	-	-	-	-	-	-	-	-	8	6	14
3:00 PM	11	6	17	11	7	18	7	6	13	-	-	-	-	-	-	-	-	-	-	-	-	10	6	16
4:00 PM	13	4	17	11	2	13	11	7	18	-	-	-	-	-	-	-	-	-	-	-	-	12	4	16
5:00 PM	8	1	9	7	1	8	14	4	18	-	-	-	-	-	-	-	-	-	-	-	-	10	2	12
6:00 PM	3	5	8	4	4	8	3	2	5	-	-	-	-	-	-	-	-	-	-	-	-	3	4	7
7:00 PM	5	2	7	3	3	6	7	0	7	-	-	-	-	-	-	-	-	-	-	-	-	5	2	7
8:00 PM	0	0	0	3	1	4	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2
9:00 PM	0	0	0	4	2	6	4	2	6	-	-	-	-	-	-	-	-	-	-	-	-	3	1	4
10:00 PM	0	0	0	3	3	6	2	2	4	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3
11:00 PM	2	0	2	1	1	2	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1
Total	**95**	**96**	**191**	**102**	**102**	**204**	**112**	**112**	**224**	-	-	-	-	-	-	-	-	-	-	-	-	**103**	**103**	**206**
Percent	**50%**	**50%**	-	**50%**	**50%**	-	**50%**	**50%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**50%**	**50%**	-

1. Mid-week average includes data between Tuesday and Thursday.

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APPENDIX B:
YOLO COUNTY COMMUTE TRAVEL BEHAVIOR CHARACTERISTICS

S0801

COMMUTING CHARACTERISTICS BY SEX

2011-2015 American Community Survey 5-Year Estimates

		Proportion	People Total	To/From West	To/From East	Weighted To/From W	To/From East
64% of Yolo County residents work in that county.	20 mi radius	55%	359,883	37%	63%	28.900%	71.100%
Mean TT to work is 22 minutes	20-30 mi donut	45%	1,142,460	19%	81%		
53% have a commute of 20 minutes or less							

Subject	California		Yolo County, California	
	Total		Total	
	Estimate	Margin of Error	Estimate	Margin of Error
PLACE OF WORK				
Worked in state of residence	99.50%	+/-0.1	99.40%	+/-0.2
Worked in county of residence	82.60%	+/-0.1	63.70%	+/-1.3
Worked outside county of residence	16.90%	+/-0.1	35.70%	+/-1.4
Worked outside state of residence	0.50%	+/-0.1	0.60%	+/-0.2
TRAVEL TIME TO WORK				
Less than 10 minutes	10.20%	+/-0.1	17.80%	+/-1.1
10 to 14 minutes	13.10%	+/-0.1	19.60%	+/-1.0
15 to 19 minutes	15.30%	+/-0.1	15.80%	+/-1.0
20 to 24 minutes	14.60%	+/-0.1	13.70%	+/-0.8
25 to 29 minutes	5.80%	+/-0.1	6.00%	+/-0.6
30 to 34 minutes	15.00%	+/-0.1	11.40%	+/-0.8
35 to 44 minutes	6.70%	+/-0.1	5.50%	+/-0.6
45 to 59 minutes	8.40%	+/-0.1	4.50%	+/-0.5
60 or more minutes	10.80%	+/-0.1	5.60%	+/-0.6
Mean travel time to work (minutes)	28	+/-0.1	22	+/-0.5

Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

APPENDIX C:
PROJECT DRIVEWAY INTERSECTION TECHNICAL CALCULATIONS

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	193	97	16	6	2
Future Vol, veh/h	6	193	97	16	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	85	85	75	75	75
Heavy Vehicles, %	2	7	7	2	2	2
Mvmt Flow	8	227	114	21	8	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	135	0	-	0	368	125
Stage 1	-	-	-	-	125	-
Stage 2	-	-	-	-	243	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1449	-	-	-	632	926
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	797	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1449	-	-	-	628	926
Mov Cap-2 Maneuver	-	-	-	-	628	-
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	792	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1449	-	-	-	683
HCM Lane V/C Ratio	0.006	-	-	-	0.016
HCM Control Delay (s)	7.5	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	127	136	10	9	4
Future Vol, veh/h	4	127	136	10	9	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	85	85	84	84	84
Heavy Vehicles, %	2	7	7	2	2	2
Mvmt Flow	5	149	160	12	11	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	172	0	-	0	325	166
Stage 1	-	-	-	-	166	-
Stage 2	-	-	-	-	159	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1405	-	-	-	669	878
Stage 1	-	-	-	-	863	-
Stage 2	-	-	-	-	870	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1405	-	-	-	666	878
Mov Cap-2 Maneuver	-	-	-	-	666	-
Stage 1	-	-	-	-	863	-
Stage 2	-	-	-	-	867	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1405	-	-	-	719
HCM Lane V/C Ratio	0.003	-	-	-	0.022
HCM Control Delay (s)	7.6	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	199	218	3	10	4
Future Vol, veh/h	1	199	218	3	10	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	64	85	85	64	64	64
Heavy Vehicles, %	2	7	7	2	2	2
Mvmt Flow	2	234	256	5	16	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	261	0	-	0	496	259
Stage 1	-	-	-	-	259	-
Stage 2	-	-	-	-	237	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1303	-	-	-	533	780
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	802	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1303	-	-	-	532	780
Mov Cap-2 Maneuver	-	-	-	-	532	-
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	800	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1303	-	-	-	585
HCM Lane V/C Ratio	0.001	-	-	-	0.037
HCM Control Delay (s)	7.8	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	360	180	16	6	2
Future Vol, veh/h	6	360	180	16	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	85	85	75	75	75
Heavy Vehicles, %	2	7	7	2	2	2
Mvmt Flow	8	424	212	21	8	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	233	0	-	0	662	222
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	440	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1335	-	-	-	427	818
Stage 1	-	-	-	-	815	-
Stage 2	-	-	-	-	649	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1335	-	-	-	424	818
Mov Cap-2 Maneuver	-	-	-	-	424	-
Stage 1	-	-	-	-	815	-
Stage 2	-	-	-	-	644	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1335	-	-	-	482
HCM Lane V/C Ratio	0.006	-	-	-	0.022
HCM Control Delay (s)	7.7	0	-	-	12.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	240	250	10	9	4
Future Vol, veh/h	4	240	250	10	9	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	85	85	84	84	84
Heavy Vehicles, %	2	7	7	2	2	2
Mvmt Flow	5	282	294	12	11	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	306	0	-	0	592	300
Stage 1	-	-	-	-	300	-
Stage 2	-	-	-	-	292	-
Critical Hdwy	4.12	-	-	-	7.12	6.22
Critical Hdwy Stg 1	-	-	-	-	6.12	-
Critical Hdwy Stg 2	-	-	-	-	6.12	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1255	-	-	-	418	740
Stage 1	-	-	-	-	709	-
Stage 2	-	-	-	-	716	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1255	-	-	-	416	740
Mov Cap-2 Maneuver	-	-	-	-	416	-
Stage 1	-	-	-	-	705	-
Stage 2	-	-	-	-	712	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1255	-	-	-	481
HCM Lane V/C Ratio	0.004	-	-	-	0.032
HCM Control Delay (s)	7.9	0	-	-	12.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	370	410	3	10	4
Future Vol, veh/h	1	370	410	3	10	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	64	85	85	64	64	64
Heavy Vehicles, %	2	7	7	2	2	2
Mvmt Flow	2	435	482	5	16	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	487	0	-	0	923	485
Stage 1	-	-	-	-	485	-
Stage 2	-	-	-	-	438	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1076	-	-	-	299	582
Stage 1	-	-	-	-	619	-
Stage 2	-	-	-	-	651	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1076	-	-	-	298	582
Mov Cap-2 Maneuver	-	-	-	-	298	-
Stage 1	-	-	-	-	619	-
Stage 2	-	-	-	-	650	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1076	-	-	-	346
HCM Lane V/C Ratio	0.001	-	-	-	0.063
HCM Control Delay (s)	8.4	0	-	-	16.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

FEHR PEERS

Major Street	County Road 31	Project	Sacred Oaks Healing Center
Minor Street	site entry	Scenario	Existing + Project Conditions
		Peak Hour	AM

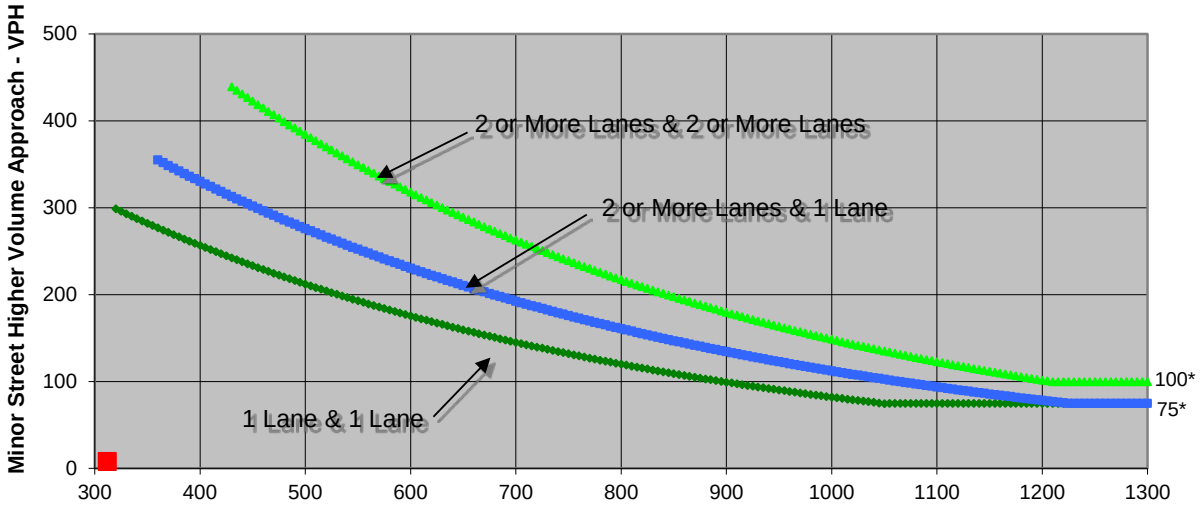
Turn Movement Volumes

	NB	SB	EB	WB
Left	0	6	6	0
Through	0	0	193	97
Right	0	2	0	16
Total	0	8	199	113

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	County Road 31	site entry	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**312**	**8**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	County Road 31	Project	Sacred Oaks Healing Center
Minor Street	site entry	Scenario	Existing + Project Conditions
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	6	6	0
Through	0	0	193	97
Right	0	2	0	16
Total	0	8	199	113

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	10.6
Approach with Worst Case Delay	SB
Total Vehicles on Approach	8

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing + Project Conditions	**0**	**8**	**320**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	County Road 31	Project	Sacred Oaks Healing Center
Minor Street	site entry	Scenario	Existing + Project Conditions
		Peak Hour	midday

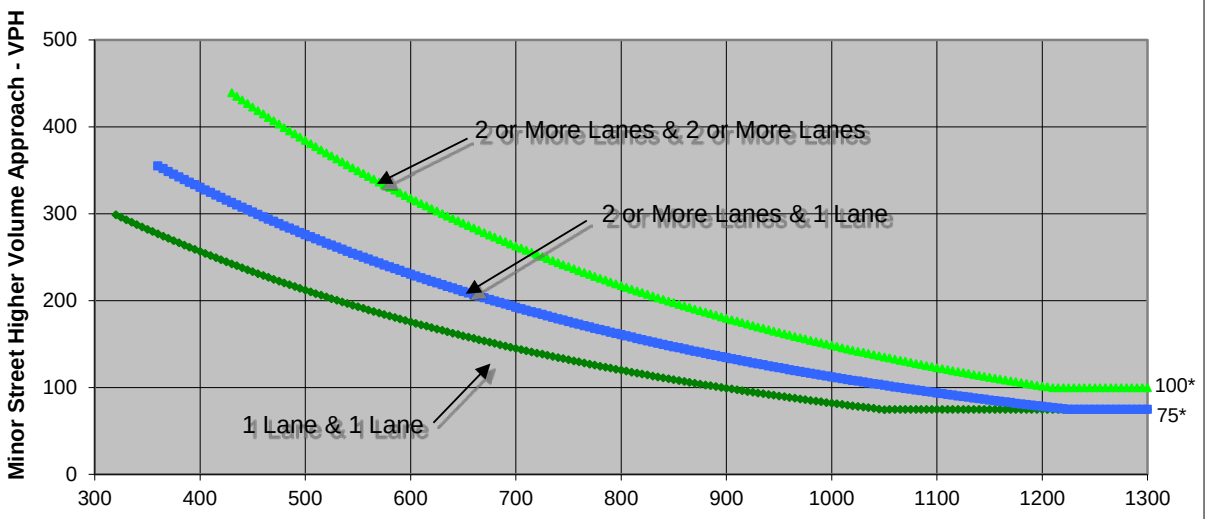
Turn Movement Volumes

	NB	SB	EB	WB
Left	0	9	4	0
Through	0	0	127	136
Right	0	4	0	10
Total	0	13	131	146

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	County Road 31	site entry	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**277**	**13**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	County Road 31	Project	Sacred Oaks Healing Center
Minor Street	site entry	Scenario	Existing + Project Conditions
		Peak Hour	midday

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	9	4	0
Through	0	0	127	136
Right	0	4	0	10
Total	0	13	131	146

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	10.4
Approach with Worst Case Delay	SB
Total Vehicles on Approach	13

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing + Project Conditions	**0**	**13**	**290**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	County Road 31	Project	Sacred Oaks Healing Center
Minor Street	site entry	Scenario	Existing + Project Conditions
		Peak Hour	PM

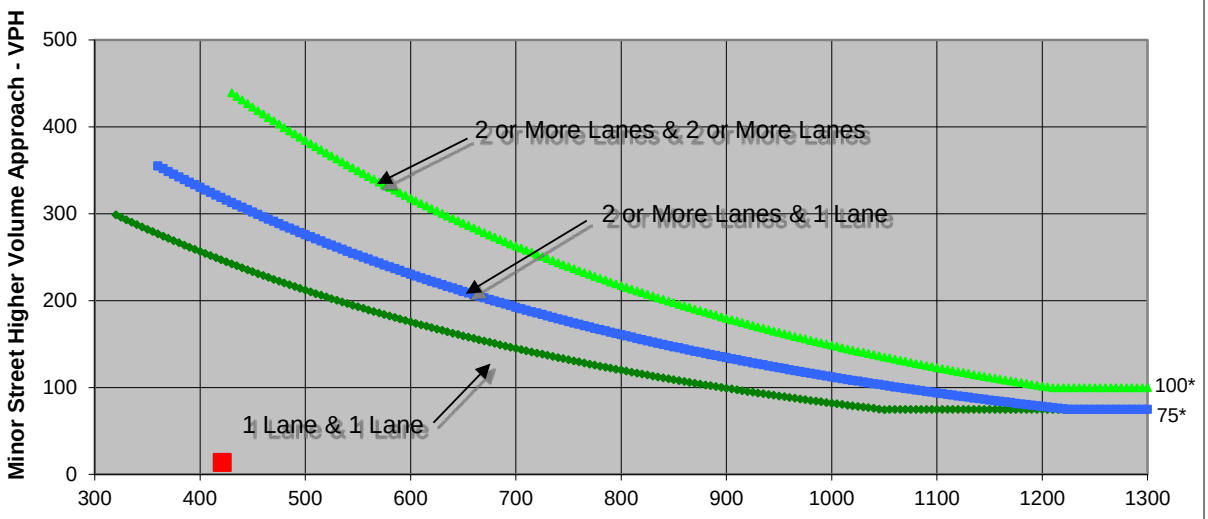
Turn Movement Volumes

	NB	SB	EB	WB
Left	0	10	1	0
Through	0	0	199	218
Right	0	4	0	3
Total	0	14	200	221

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	County Road 31	site entry	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**421**	**14**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	County Road 31	Project	Sacred Oaks Healing Center
Minor Street	site entry	Scenario	Existing + Project Conditions
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	10	1	0
Through	0	0	199	218
Right	0	4	0	3
Total	0	14	200	221

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	12.8
Approach with Worst Case Delay	SB
Total Vehicles on Approach	14

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing + Project Conditions	**0**	**14**	**435**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	County Road 31	Project	Sacred Oaks Healing Center
Minor Street	site entry	Scenario	Cumulative + Project Conditions
		Peak Hour	AM

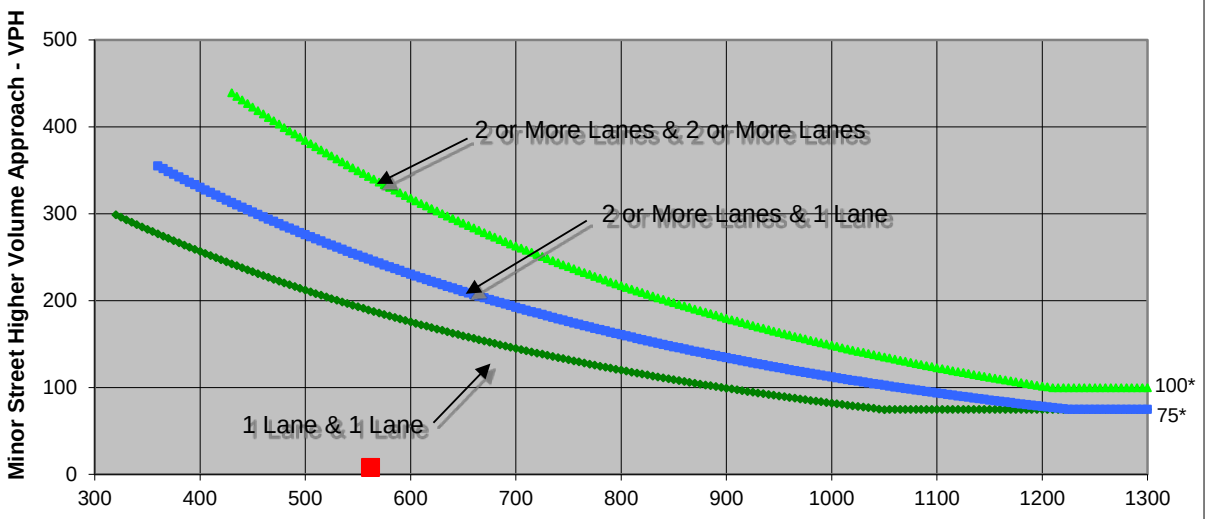
Turn Movement Volumes

	NB	SB	EB	WB
Left	0	6	6	0
Through	0	0	360	180
Right	0	2	0	16
Total	0	8	366	196

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	County Road 31	site entry	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**562**	**8**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	County Road 31	Project	Sacred Oaks Healing Center
Minor Street	site entry	Scenario	Cumulative + Project Conditions
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	6	6	0
Through	0	0	360	180
Right	0	2	0	16
Total	0	8	366	196

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	12.6
Approach with Worst Case Delay	SB
Total Vehicles on Approach	8

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative + Project Conditions	**0**	**8**	**570**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	County Road 31	Project	Sacred Oaks Healing Center
Minor Street	site entry	Scenario	Cumulative + Project Conditions
		Peak Hour	midday

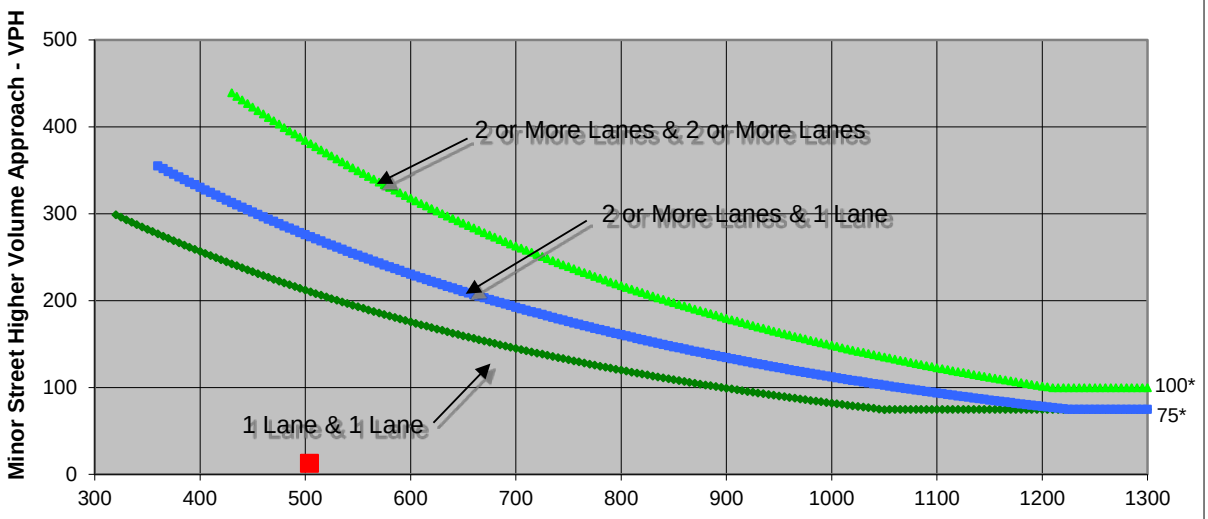
Turn Movement Volumes

	NB	SB	EB	WB
Left	0	9	4	0
Through	0	0	240	250
Right	0	4	0	10
Total	0	13	244	260

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	County Road 31	site entry	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**504**	**13**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	County Road 31	Project	Sacred Oaks Healing Center
Minor Street	site entry	Scenario	Cumulative + Project Conditions
		Peak Hour	midday

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	9	4	0
Through	0	0	240	250
Right	0	4	0	10
Total	0	13	244	260

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	12.7
Approach with Worst Case Delay	SB
Total Vehicles on Approach	13

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative + Project Conditions	**0**	**13**	**517**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	County Road 31	Project	Sacred Oaks Healing Center
Minor Street	site entry	Scenario	Cumulative + Project Conditions
		Peak Hour	PM

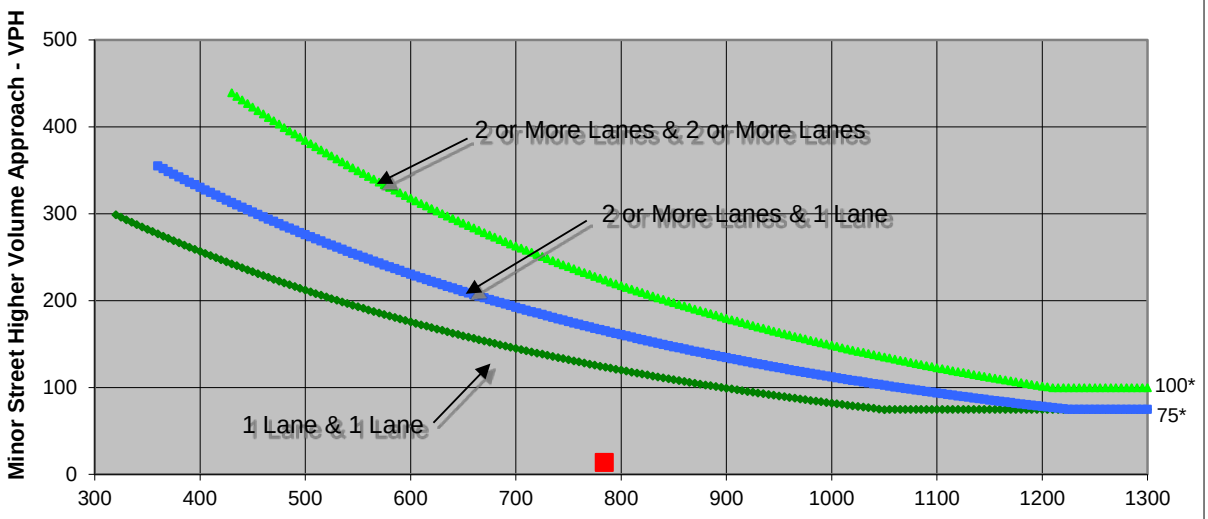
Turn Movement Volumes

	NB	SB	EB	WB
Left	0	10	1	0
Through	0	0	370	410
Right	0	4	0	3
Total	0	14	371	413

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	County Road 31	site entry	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**784**	**14**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	County Road 31	Project	Sacred Oaks Healing Center
Minor Street	site entry	Scenario	Cumulative + Project Conditions
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	10	1	0
Through	0	0	370	410
Right	0	4	0	3
Total	0	14	371	413

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	16.1
Approach with Worst Case Delay	SB
Total Vehicles on Approach	14

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative + Project Conditions	**0.1**	**14**	**798**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

ARRIVAL TIME IN SECONDS DURING PEAK 15-MINUTE AM PERIOD

ARRIVAL TIME of EB LT VEHICLE	Approaching WB Traffic Arrival Time	Time Difference Vs. Veh 1	Time Difference Vs. Veh 2	Time Difference Vs. Veh 3	run	Interaction (1 = Yes, 0 = No)
892	140	-753	-269	-430	1	0
409	33	-859	-376	-537	2	1
570	566	-326	157	-4	3	1
	134	-759	-275	-436	4	1
	853	-40	444	283	5	1
	283	-610	-126	-287	6	1
	773	-120	364	203	7	0
	184	-709	-225	-386	8	0
	729	-163	320	159	9	1
	585	-307	176	15	10	1
	454	-439	45	-116	11	0
	94	-799	-315	-476	12	0
	171	-722	-238	-399	13	1
	215	-678	-194	-355	14	1
	765	-127	356	195	15	1
	511	-382	102	-59	16	1
	760	-133	351	190	17	1
	128	-764	-281	-442	18	0
	143	-749	-266	-427	19	0
	232	-660	-177	-338	20	1
	875	-18	466	305	Probability	65%
	40	-852	-369	-530		
	596	-296	187	26		
	739	-154	329	169		
	126	-766	-283	-444		
	257	-636	-152	-313		
	113	-779	-296	-457		
	90	-802	-319	-480		
	897	5	488	327		
	351	-541	-58	-219		
	184	-709	-225	-386		
	137	-756	-272	-433		
	685	-208	276	115		
	774	-118	365	204		
	142	-750	-267	-428		
	484	-409	75	-86		
	227	-666	-182	-343		
	266	-626	-143	-304		
	427	-466	18	-143		
	877	-15	468	307		
	3	-889	-406	-567		
	485	-407	76	-85		
	38	-854	-371	-532		
	805	-88	396	235		
	553	-339	144	-17		
	656	-236	247	86		
	755	-137	346	185		
	448	-445	39	-122		
	240	-653	-169	-330		
	867	-25	458	297		
	148	-745	-261	-422		
	433	-459	24	-137		
	23	-869	-386	-547		
	531	-362	122	-39		
	25	-867	-384	-545		
	715	-178	306	145		
	831	-61	422	261		
	507	-386	98	-63		

CUMULATIVE PLUS PROJECT

Notes:

1. 58 WB vehicles arrive during the peak 15-minutes of the AM peak hour.
2. Process reviews whether an EB LT vehicle arrives from one second prior to thru 5 seconds after a WB vehicle and needs to wait
3. Results shown here are for Run 20.

ARRIVAL TIME IN SECONDS DURING PEAK 15-MINUTE AM PERIOD

ARRIVAL TIME of EB LT VEHICLE	Approaching WB Traffic Arrival Time	Time Difference Vs. Veh 1	Time Difference Vs. Veh 2	Time Difference Vs. Veh 3	run	Interaction (1 = Yes, 0 = No)
577	320	-258	-219	301	1	0
538	698	121	160	680	2	0
18	224	-353	-314	206	3	1
	559	-18	21	541	4	1
	223	-354	-315	205	5	0
	100	-477	-438	82	6	1
	67	-510	-471	49	7	1
	330	-247	-208	312	8	1
	70	-507	-469	51	9	0
	558	-19	20	539	10	0
	654	77	116	635	11	1
	590	13	51	571	12	0
	62	-515	-476	44	13	1
	703	126	165	685	14	0
	716	139	178	698	15	0
	378	-199	-160	360	16	0
	251	-326	-287	232	17	0
	448	-129	-90	429	18	0
	474	-103	-64	456	19	1
	79	-498	-460	60	20	1
	296	-281	-242	278	Probability	45%
	616	39	77	597		
	669	92	131	651		
	52	-525	-486	34		
	30	-547	-508	12		
	709	132	171	691		
	540	-37	2	522		
	733	156	195	715		
	364	-213	-174	346		
	257	-320	-282	238		
	41	-536	-497	23		
	655	78	117	636		
	721	144	183	703		

EXISTING PLUS PROJECT

Notes:

1. 33 WB vehicles arrive during the peak 15-minutes of the AM peak hour.
2. Process reviews whether an EB LT vehicle arrives from one second prior to thru 5 seconds after a WB vehicle and needs to wait
3. Results shown here are for Run 20.