LINCOLN MEADOWS PROJECT

SCH# 2016072046

DRAFT ENVIRONMENTAL IMPACT REPORT

VOLUME I OF II

Prepared for **The City of Lincoln**



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Lincoln Meadows Project Draft Environmental Impact Report

SCH# 2016072046

Prepared for The City of Lincoln

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7.

1. INTRODUCTION

INTRODUCTION

1.1 TYPE AND PURPOSE OF THE EIR

The Lincoln Meadows Environmental Impact Report (EIR) has been prepared in accordance with the California Environmental Quality Act (CEQA) of 1970, Pub. Res. Code §§ 21000-21178, as amended and the Guidelines for Implementation of the California Environmental Quality Act, Cal. Code Regs. Title 14, §§ 15000-15387 (CEQA Guidelines). The City of Lincoln is the lead agency for the environmental review of the Lincoln Meadows project (proposed project) evaluated herein and has the principal responsibility for approving the project. As required by Section 15121 of the CEQA Guidelines, this EIR will (a) inform public agency decision-makers, and the public generally, of the significant environmental effects of the project, (b) identify possible ways to minimize the significant adverse environmental effects. The public agency shall consider the information in the EIR along with other information that may be presented to the agency.

As provided in the CEQA Guidelines Section 15021, public agencies are charged with the duty to avoid or minimize environmental damage where feasible. The public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social issues. CEQA requires the preparation of an EIR prior to approving any project that may have a significant effect on the environment. For the purposes of CEQA, the term *project* refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]). With respect to the proposed project, the City has determined that the proposed development is a *project* within the definition of CEQA, which has the potential for resulting in significant environmental effects.

The lead agency is required to consider the information in the EIR along with any other available information in deciding whether to approve the application. The basic requirements for an EIR include discussions of the environmental setting, environmental impacts, mitigation measures, alternatives, growth inducing impacts, and cumulative impacts.

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a *project-level EIR* pursuant to CEQA Guidelines Section 15161, which is an analysis that examines the environmental impacts of a specific development project. A *project-level EIR* focuses primarily on the changes in the environment that would result from the development of a specific project, and examines all phases of the project including planning, construction, and operation.

1.2 PROJECT SUMMARY

This section provides an overview of the project location, components, and approvals. For additional project description details, please refer to Chapter 3, Project Description, of this EIR.

Project Location

The project site is located north of Virginiatown Road and west of Hungry Hollow Road within an unincorporated area of Placer County. The project site is located within the City of Lincoln Sphere of Influence (SOI), within the Village 2 planning area of the 2008 City of Lincoln General Plan. The total project area consists of approximately 43.87 acres, which includes the 40-acre tentative map site (APN 021-231-018), an approximately 2.15-acre linear parcel between the tentative map site and Hungry Hollow Road (APN 021-250-001), a 1.2-acre portion of Hungry Hollow Road fronting APN 021-250-001, and the northern portion of Virginiatown Road fronting the tentative map site.

Land uses in the vicinity of the project site are generally characterized primarily by the singlefamily residences associated with the Lincoln Highlands subdivision located to the west of the site and undeveloped agricultural land. The western edge of the property is bordered by a 40-foot-wide Nevada Irrigation District (NID) easement, then a 7-foot-high masonry block wall, after which is the single-family residential subdivision. A 42-foot-wide irrevocable offer of dedication (IOD) exists along the entire length of the western boundary of the site, which is associated with a potential future collector road north of Virginiatown Road that was considered when the Lincoln Highlands subdivision project was approved. The NID easement runs on top of the roadway IOD. The southern edge of the project site is bordered by Virginiatown Road, south of which is the decommissioned City landfill, which closed in 1976. The northern portion of the approved Village 1 Specific Plan is also south of Virginiatown Road. The eastern edge of the project site is bordered by rural residential uses and undeveloped lands (east of Hungry Hollow Road). The parcel to the north of the project site is undeveloped grassland, which is designated as Rural Residential and zoned Farm, by the County. Although the lot to the north of the project site is zoned for farming uses by the County, agricultural-related activities (i.e., grazing) are not known to have occurred on the lot to the north of the project site since 2003. Carlin C. Coppin Elementary School is located approximately one mile west of the site on East 12th Street.

Project Components

The proposed project would include the subdivision and development of 144 one- and two-story single-family homes, two landscape lots, a 7.67-acre wetland open space lot with two stormwater detention basins, a 0.28-acre open space lot, and roadway and utility improvements. Residential lots would range in size from 6,000 square feet to 12,787 square feet, with an average lot size of 9,394 square feet. The proposed project would require approval of the following discretionary entitlements:

Lead Agency Approvals - City of Lincoln

- Annexation Resolution authorizing submittal of an annexation application to Placer County LAFCo;
- General Plan Amendment to redesignate the project site Low Density Residential and remove the site from the Village 2 planning area;
- Prezoning of the project site to Single-Family Residential (R-1) and Open Space; and

• Tentative Subdivision Map to subdivide the existing parcel into 144 single-family lots, two landscape lots, and two open space lots.

In addition, the project must undergo a design review as part of the project evaluation, in compliance with the Zoning Ordinance. A Development Agreement may also be sought for purposes of vesting entitlements and establishing specific obligations and commitments by both the City and the applicant.

Responsible Agency Approvals – Placer County LAFCo

- Annexation of the entire 43.87-acre project site (comprised of APNs 021-231-018 and 021-250-001, the portion of Hungry Hollow Road fronting APN 021-250-001, and the portion of Virginiatown Road fronting APN 021-231-018) into the City of Lincoln; and
- Detachment of the project site from the Western Placer Fire County Service Area (CSA) 28 Zone 76 for fire protection services.

1.3 EIR PROCESS

The EIR process begins with the decision by the lead agency to prepare an EIR, either during a preliminary review of a project or at the conclusion of an Initial Study. Once the decision is made to prepare an EIR, the lead agency sends a Notice of Preparation (NOP) to appropriate government agencies and, when required, to the State Clearinghouse (SCH) in the Office of Planning and Research (OPR), which will ensure that responsible and trustee State agencies reply within the required time. The SCH assigns an identification number to the project, which then becomes the identification number for all subsequent environmental documents on the project. Commenting agencies have 30 days to respond to the NOP and provide information regarding alternatives and mitigation measures they wish to have explored in the Draft EIR and to provide notification regarding whether the agency will be a responsible agency or a trustee agency for the project.

An NOP (see Appendix A) for the proposed project was circulated to agencies and the public from July 20, 2016 to August 18, 2016. Several comment letters were received during this 30-day review period, and are provided as Appendix B to this EIR. The City of Lincoln held an NOP scoping meeting during the 30-day review period on August 17, 2016, for the purpose of receiving comments on the scope of the environmental analysis to be prepared for the proposed project. See Section 1.8 below for a summary of all of the NOP comments received on this project.

Upon completion of the Draft EIR and prior to circulation to state and local agencies and interested members of the public, a notice of completion is filed with the SCH and a public notice of availability is published to inform interested parties that a Draft EIR is available for agency and public review. In addition, the notice provides information regarding the location of copies of the Draft EIR available for public review and any public meetings or hearings that are scheduled. The Draft EIR is circulated for a minimum period of 45 days, during which time reviewers may submit comments on the document to the lead agency. The lead agency must respond to comments in writing. If significant new information, as defined in CEQA Guidelines section 15088.5, is added to an EIR after public notice of availability is given, but before certification of the EIR, the revised

EIR or affected chapters must be recirculated for an additional public review period with related comments and responses.

A Final EIR will be prepared, containing public comments on the Draft EIR and written responses to those comments, as well as a list of changes to the Draft EIR text necessitated by public comments, as warranted. Before approving a project, the lead agency shall certify that the EIR (consisting of the Draft EIR and Final EIR) has been completed in compliance with CEQA, and that the EIR has been presented to the decision-making body of the lead agency, which has reviewed and considered the EIR. The lead agency shall also certify that the EIR reflects the lead agency's independent judgment and analysis.

The findings prepared by the lead agency must be based on substantial evidence in the administrative record and must include an explanation that bridges the gap between evidence in the record and the conclusions required by CEQA. If the decision-making body elects to proceed with a project that would have unavoidable significant impacts, then a Statement of Overriding Considerations explaining the decision to balance the benefits of the project against unavoidable environmental impacts must be prepared.

1.4 SCOPE OF THE EIR

The CEQA Guidelines, Section 15126.2(a) states, in pertinent part:

An EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced.

Pursuant to the CEQA Guidelines, the scope of this EIR addresses specific issues and concerns identified as potentially significant. Issue areas that were determined within the Initial Study not to require further study are discussed in more detail in Section 1.5, Environmental Issues Dismissed in this Draft EIR, below. The complete text of the Initial Study is contained in Appendix C of this EIR.

The sections of the CEQA Guidelines Appendix G Checklist identified for study in this EIR include the following:

- Aesthetics;
- Air Quality and Greenhouse Gas Emissions;
- Biological Resources;
- Cultural Resources;
- Soils, Geology, and Seismicity;
- Hydrology and Water Quality;
- Land Use and Planning / Agricultural Resources;
- Noise;

- Public Services and Utilities; and
- Transportation and Circulation.

The evaluation of effects is presented on a resource-by-resource basis in Chapters 4.1 through 4.10 of the EIR. Each chapter is divided into the following three sections: Existing Environmental Setting, Regulatory Context, and Impacts and Mitigation Measures.

1.5 Environmental Issues Dismissed in the Initial Study

The Initial Study prepared for the proposed project during the scoping period (see Appendix C) includes a detailed environmental checklist addressing a range of technical environmental issues. For each technical environmental issue, the Initial Study identifies the level of impact for the proposed project. The Initial Study identifies the environmental effects as either "no impact," "less-than-significant," "less-than-significant with mitigation incorporated," or "potentially significant." Impacts identified for the proposed project in the Initial Study as less than significant or no impact, which do not require mitigation, are presented below.

- Aesthetics (b): According to the California Department of Transportation (Caltrans) map of designated and eligible scenic routes under the California Scenic Highway Program, officially-designated State scenic highways are not located in the vicinity of the project site or in Placer County. While several routes in the County are listed as eligible State scenic highways, such routes are not located in the vicinity of the project site. Accordingly, development of the proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway, and impacts would be *less than significant*.
- Agriculture and Forest Resources (c-d): There are no forest lands within the project area, nor does the project site contain any portions zoned for forest land or Timberland Production. Therefore, the proposed project would have *no impact* with regard to conversion of forest land or any potential conflict with forest land, timberland, or Timberland Production zoning.
- *Biological Resources (f)*: The City of Lincoln is currently involved in the development of the Placer County Conservation Plan (PCCP), which is a habitat conservation plan (HCP) under the Endangered Species Act and a natural community conservation plan (NCCP) under the California Natural Community Conservation Planning Act. Although the PCCP has not been finalized or approved, the project is within the potential future growth area and no areas proposed for preservation are located within the project site. Therefore, the project would have a *less-than-significant* impact with respect to conflicting with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan.
- *Geology and Soils (aiv, e):* The project site is not within a State of California Seismic Hazard Zone for seismically-induced landsliding or within an Alquist-Priolo Earthquake Fault Zone. In addition, the site and surrounding areas are defined by relatively flat

topography with a very low potential for landslide occurrence. Therefore, the proposed project would not expose people or structures to potential substantial adverse effects involving landslides, and a *less-than-significant* impact would occur. In addition, the proposed project would receive sewer service from the City of Lincoln and not utilize a septic tank system. Therefore, *no impact* would occur related to septic tanks or alternative wastewater disposal systems.

- Hazards and Hazardous Materials (a-h): Future residents may use common household cleaning products on-site, which could contain potentially hazardous chemicals; however, due to the regulations of such products and the small quantities that would be used on the site, routine use of such products would not represent a substantial risk to public health or the environment. Therefore, the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and a less-than-significant impact would occur. In addition, the Phase I ESA prepared for the proposed project concluded that potential recognized environmental conditions are not present at the project site. During construction of the project, the project contractor would be required to comply with all California Health and Safety Codes and local ordinances regulating the handling, storage, and transportation of hazardous and toxic materials. Furthermore, the project is not located within one-quarter mile of a school. Therefore, the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment, or emit hazardous materials within onequarter mile of a school, and impacts would be *less than significant*. Also, according to the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, the project area is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, the project would not create a significant hazard to the public or the environment, and no impact would occur. The project site is not located within two miles of any public airports nor private airstrips, and does not fall within an airport land use plan area. Therefore, no impact would occur related to such. The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or evacuation plan, and impacts associated with such would be less than significant. Given that construction activities would be required to comply with Chapter 7A of the California Building Code and Public Resources Code Section 4291 and that the proposed project would be bordered by existing roads that would act as fuel breaks, the threat of wildland fire at the project site would be minimal. Thus, the proposed project would result in a less-than-significant impact related to exposing people or structures to the risk of loss, injury, or death involving wildland fires.
- *Hydrology and Water Quality (g-h, j):* The project site is identified by the Federal Emergency Management Agency (FEMA) as Flood Hazard Zone X, which is usually above the 500-year flood level, outside of the 100-year floodplain, and is described by FEMA as an area of minimal flood hazard. Thus, the project would not place housing or structures within a 100-year floodplain, and impacts would be *less than significant*. Due to the proposed project site's distance from the nearest ocean or other large body of water, the project site would not be subject to inundation due to a tsunami or seiche. In addition,

due to the relatively flat topography of the site and surrounding area, the project would not be subject to a significant mudflow risk. Therefore, a *less-than-significant* impact would occur related to inundation by seiche, tsunami, or mudflow.

- Land Use and Planning (a, c): The project site is undeveloped, with the existing Lincoln Highlands residential neighborhood development located immediately west of the site. Given these characteristics, the project would have *no impact* related to the physical division of an established community. As noted above, the project would have a *less-thansignificant* impact with respect to a conflict with an applicable habitat conservation plan or natural community's conservation plan.
- *Mineral Resources (a-b)*: The project site is not located near the City's clay resources extraction operations, and available information from the California Geological Survey and General Plan does not indicate that any regionally or locally important mineral resources are located within or adjacent to the site. Therefore, *no impact* to mineral resources would occur as a result of development of the project.
- *Noise (e-f):* The project area is not located within the vicinity of a public airport or a private airstrip and is not within an airport land use plan. Therefore, the proposed project would not be exposed to excessive air traffic noise, and *no impact* would occur.
- *Population and Housing (a-c)*: The project site is currently undeveloped. As such, housing or people would not be displaced as part of the proposed project, and *no impact* related to the displacement of substantial numbers of existing housing or people would occur.
- *Pubic Services (e)*: Impacts related to fire and police protection services, schools, and park facilities are addressed in detail in this EIR. However, because the proposed project has been anticipated for urban development by the City, the project is not expected to result in a substantial demand for other public services and facilities such that an adverse physical impact associated with the provision of new or physically altered facilities would occur. Therefore, a *less-than-significant* impact would occur related to libraries or other public facilities.
- *Transportation and Circulation (c):* The proposed project site is not located near an airport, and does not include any improvements to airports or a change in air traffic patterns. Therefore, because the proposed project would not result in a change in air traffic patterns, including either an increase in air traffic levels or a change in location that results in substantial safety risks, *no impact* would occur.

1.6 DEFINITION OF BASELINE

According to CEQA Guidelines Section 15125, an EIR must include a description of the existing physical environmental conditions in the vicinity of the project to provide the "baseline physical conditions" against which project-related changes could be compared. Normally, the baseline condition is the physical condition that exists when the NOP is published. The NOP for the

proposed project was published on July 20, 2016. Therefore, conditions existing at that time are considered to be the baseline against which changes that would result from the proposed project are evaluated. Impacts could include both direct and indirect physical changes to the baseline condition. The baseline condition for the proposed project site is presented in Chapter 3, Project Description, of this EIR. The baseline conditions pertaining to each resource area are described in the "Existing Environmental Setting" section of the respective chapters of this EIR.

1.7 SIGNIFICANCE CRITERIA

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance." In addition, the Guidelines state, "An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant." (CEQA Guidelines Section 15382).

This EIR uses the following terminology to describe levels of impact significance: 1) Less-thansignificant impact; 2) Less-than-significant impact with implementation of mitigation; and 3) Significant impact that cannot be mitigated to a level that is less than significant.

Each environmental area of analysis uses a distinct set of significance criteria. Where measurable and explicit quantification of significance is identified, such as violation of an ambient air quality standard, this measurement is used to assess the level of significance of a particular impact in this EIR.

The significance criteria are identified at the beginning of the Impacts and Mitigation Measures section in each of the technical chapters of this EIR. Although significance criteria are necessarily different for each resource considered, the provided significance levels ensure consistent evaluation of impacts for all alternatives considered.

1.8 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

During the NOP public review period from July 20, 2016 to August 19, 2016, the City of Lincoln received seven (7) comment letters. A copy of each letter is provided in Appendix B of this EIR. In addition, a public scoping meeting was held on August 17, 2016.

The comment letters were authored by the following representatives of state and local agencies, as well other interested individuals:

Public Agencies

- Central Valley Regional Water Quality Control Board (CVRWQCB) Tadlock, Stephanie
- Placer County Air Pollution Control District (PCAPCD) Green, Angel
- Placer County Community Development Resource Agency Jacobsen, Crystal

Individuals

- Anderson, Irene
- Ayer, James and Shelby
- Huerta, Aleshia
- McAnally, Karla

The following list, categorized by issue, summarizes the concerns in these letters:

Aesthetics	Concerns related to:
(c.f. Chapter 4.1)	• Street and pathway lighting (Dark-Sky Compliant).
(• Perimeter fencing and signage compliance with the Placer County
	Design Guidelines for rural development.
Air Quality and	Concerns related to:
Greenhouse Gas	• PCAPCD-recommended thresholds of significance for construction
Emissions	and operational project emissions.
$\overline{(c.f. Chapter 4.2)}$	• PCAPCD-recommended cumulative thresholds of significance for
	construction and operational project emissions.
	• Sacramento Metropolitan Air Quality Management District-
	recommended thresholds of significance for greenhouse gas (GHG)
	emissions.
	• Use of the California Emissions Estimator Model (CalEEMod) to
	estimate project-related construction and operational emissions.
	• Utilization of all feasible air quality mitigation measures.
	• Use of CALINE-4 dispersion model to estimate carbon monoxide
	(CO) levels resulting from motor vehicle emissions if the project is
	determined to degrade traffic level of service (LOS) to LOS E or F in
	the project vicinity.
	• Performing a Health Risk Assessment (HRA) if sensitive receptors are
	located within the vicinity of the proposed project site.
	• Recommended air quality mitigation measures/conditions of approval
	for the proposed project.
Biological	Concerns related to:
Resources	• Inclusion of a greenbelt buffer between Auburn Ravine and the
(<i>c.f.</i> Chapter 4.3)	proposed project site.
Hydrology and	Concerns related to:
Water Quality	• Project compliance with the CVRWQCB Basin Plan.
(<i>c.f.</i> Chapter 4.6)	• Project compliance with the permitting programs, including, but not
	limited to, the Construction Storm Water General Permit, Municipal
	Separate Storm Sewer System Permit, Clean Water Act Section 401
	and 404 Permits, National Pollutant Discharge Elimination System
	Permit, and Waste Discharge Requirements, if applicable.
	• Potential overload of the actual or designed capacity of existing
	stormwater and flood-carrying facilities.

	• Higher runoff peak flow rates at downstream locations.
	• Increased volume of runoff at downstream locations.
Land Use and	Concerns related to:
Agricultural	• Compliance with the Placer County Right-to-Farm Ordinance.
Resources	• The project annexation area should correspond with the City limit line
$\overline{(c.f. Chapter 4.7)}$	and should also include the intersection of Virginatown Road and
	Hungry Hollow Road.
Noise	Concerns related to:
(<i>c.f.</i> Chapter 4.8)	• Increase in traffic noise in the vicinity of the proposed project site.
	• Compliance with the Placer County Noise Ordinance.
Public Services	Concerns related to:
and Utilities	• Effects on existing and future County-wide services.
(<i>c.f.</i> Chapter 4.9)	• Expectation for property and sales taxes generated by the project to
	fund County-wide services.
Transportation	Concerns related to:
and Circulation	• Increase in traffic on Virginiatown Road.
(c.f. Chapter	• Increase in traffic at the Virginiatown Road and McCourtney Road
4.10)	intersection.
	• General vehicular access to the proposed project site.
	• Emergency access to the proposed project site.
	• Emergency access to the proposed project site.

All of the above issues are addressed in this EIR, in the relevant sections identified in the first column.

1.9 ORGANIZATION OF THE EIR

The Lincoln Meadows EIR is organized into the following sections:

Chapter 1 – Introduction

Provides an introduction and overview describing the intended use of the EIR and the review and certification process.

Chapter 2 – Executive Summary

Summarizes the elements of the project and the environmental impacts that would result from implementation of the proposed project, describes proposed mitigation measures and indicates the level of significance of impacts after mitigation. Describes alternatives that would reduce or avoid significant impacts.

Chapter 3 – Project Description

Provides a detailed description of the proposed project, including the location, background information, objectives, and technical characteristics.

Chapter 4 – Environmental Setting, Impacts and Mitigation

Contains a project-level and cumulative analysis of environmental issue areas associated with the proposed project. The section for each environmental issue contains an introduction and

description of the setting of the project site, identifies impacts and recommends appropriate mitigation measures, if determined necessary.

Chapter 5 – Statutorily Required Sections

Provides discussions required by CEQA regarding certain categories of impacts that would result from the proposed project, including a summary of potential growth-inducing impacts, energy conservation, significant irreversible changes to the environment, and significant and unavoidable impacts. Cumulative impacts are also summarized.

Chapter 6 – General Plan Policy Consistency

Provides an evaluation of the proposed project's consistency with the City of Lincoln General Plan goals and policies for informational purposes and to identify any potential conflicts that could result in a physical impact on the environment.

Chapter 7 – Alternatives Analysis

Provides a comparative analysis of the alternatives to the proposed project, their respective comparative environmental effects, and a determination of the environmentally superior alternative.

Chapter 8 – EIR Authors and Persons Consulted

Lists report authors and persons consulted who provided technical assistance in the preparation and review of the EIR.

Chapter 9 – References

Provides bibliographic information for all references and resources cited.

Appendices

Includes the NOP, NOP comment letters received, the Initial Study, and supporting technical studies.

2. EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

2.1 INTRODUCTION

The Executive Summary chapter of the Environmental Impact Report (EIR) provides an overview of the Lincoln Meadows project (proposed project) (See Chapter 3, Project Description, for further detail) and provides a table summary of the conclusions of the environmental analysis provided in Chapters 4.0 through 4.10. This chapter also summarizes the alternatives to the proposed project that are described in Chapter 7, Alternatives Analysis, and identifies the Environmentally Superior Alternative. Table 2-1 contains the potential environmental impacts associated with the proposed project, the significance of the impacts, the proposed mitigation measures for the impacts, and the significance of the impacts after implementation of the mitigation measures.

2.2 SUMMARY DESCRIPTION OF THE PROPOSED PROJECT

The proposed project site is located north of Virginiatown Road and west of Hungry Hollow Road within an unincorporated area of Placer County. The project site is located within the City of Lincoln Sphere of Influence (SOI), within the Village 2 planning area of the 2008 City of Lincoln General Plan.

The proposed project would include the subdivision and development of 144 one- and two-story single-family homes, two landscape lots, a 7.67-acre wetland open space lot with two stormwater detention basins, a 0.28-acre open space lot, and roadway and utility improvements. Residential lots would range in size from 6,000 square feet (sf) to 12,787 sf, with an average lot size of 9,394 sf. The proposed project would require approval of the following discretionary entitlements:

Lead Agency Approvals - City of Lincoln

- Annexation Resolution authorizing submittal of an annexation application to Placer County LAFCo;
- General Plan Amendment to redesignate the project site Low Density Residential and remove the site from the Village 2 planning area;
- Prezoning of the project site to Single-Family Residential (R-1) and Open Space; and
- Tentative Subdivision Map to subdivide the existing parcel into 144 single-family lots, two landscape lots, and two open space lots.

In addition, the project must undergo a design review as part of the project evaluation, in compliance with the Zoning Ordinance. A Development Agreement may also be sought for purposes of vesting entitlements and establishing specific obligations and commitments by both the City and the applicant.

Responsible Agency Approvals – Placer County LAFCo

- Annexation of the entire 43.87-acre project site (comprised of APNs 021-231-018 and 021-250-001, the portion of Hungry Hollow Road fronting APN 021-250-001, and the portion of Virginiatown Road fronting APN 021-231-018) into the City of Lincoln; and
- Detachment of the project site from the Western Placer Fire County Service Area (CSA) 28 Zone 76 for fire protection services.

2.3 Environmental Impacts and Required Mitigation Measures

Under the California Environmental Quality Act (CEQA), a significant effect on the environment is defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, mineral, flora, fauna, ambient noise, and objects of historic or aesthetic significance. Implementation of the proposed project could result in significant impacts on the resource areas listed below. This EIR requires mitigation measures to be implemented as part of the proposed project to reduce potential adverse impacts to a less-than-significant level. Such mitigation measures are noted in this EIR and are found in the following technical chapters: Aesthetics, Air Quality and Greenhouse Gas Emissions, Biological Resources, Cultural Resources, Soils, Geology, and Seismicity, Hydrology and Water Quality, Noise, and Transportation and Circulation. If an impact is determined to be significant or potentially significant, applicable mitigation measures are identified, as appropriate. These mitigation measures are also summarized in Table 2-1 at the end of this chapter. The mitigation measures presented in the EIR will form the basis of the Mitigation Monitoring and Reporting Program. An impact that remains significant after implementation of mitigation measures is considered a significant and unavoidable impact.

2.4 ALTERNATIVES TO THE PROPOSED PROJECT

This section presents a summary of the evaluation and alternatives considered for the proposed project, which include the following:

- No Project (No Build) Alternative;
- Reduced Intensity Alternative 1 / Clustered Development; and
- Reduced Intensity Alternative 2.

The following summary provides brief descriptions of the three alternatives to the proposed project that are evaluated in this EIR. For a more thorough discussion of project alternatives, please refer to Chapter 7, Alternatives Analysis.

No Project Alternative

The No Project (No Build) Alternative is defined in this section as the continuation of the existing conditions of the project site, which is currently vacant and undeveloped. Because the No Project Alternative would not involve construction, impacts associated with construction of the proposed project would not occur. Furthermore, existing on-site land uses would not be

modified as a result of the placement of new residential structures. The No Project Alternative would result in no impacts to aesthetics, air quality and greenhouse gas (GHG) emissions, biological resources, cultural resources, soils, geology, and seismicity, hydrology and water quality, land use and agricultural resources, noise, public services and utilities, and transportation and circulation

However, because the No Project Alternative would not include construction of housing, create an attractive gateway to the City of Lincoln, or improve the City's tax base, the No Project Alternative would not meet any of the basic project objectives (see Chapter 3, Project Description).

Reduced Intensity Alternative 1 / Clustered Development

The Reduced Intensity Alternative 1 / Clustered Development includes the development of the proposed project with 72 single-family residential units. The 72 units would be clustered in the southeastern and the northern portions of the project site with the remainder of the site being designated as open space. Similar to the proposed project, it is assumed that this alternative would also include two roadway access points, one along Virginiatown Road and the other along Hungry Hollow Road. By limiting the total number of units included in the project and clustering the remaining units, the Reduced Intensity Alternative 1 / Clustered Development would reduce the amount of ground disturbance needed during construction activity. The Reduced Intensity Alternative 1 / Clustered Development would not achieve the project objective of providing a project in the range of 150-units. However, the Reduced Intensity Alternative 1 / Clustered Development could still achieve the remainder of the project objectives.

As discussed in greater detail in Chapter 7 of this EIR, the Reduced Intensity Alternative 1 / Clustered Development would result in fewer impacts than the proposed project in the majority of environmental resource areas evaluated in this EIR. However, the Reduced Intensity Alternative 1 / Clustered Development would result in similar impacts related to land use, agriculture, and noise.

Reduced Intensity Alternative 2

The Reduced Intensity Alternative 2 includes the development of the proposed project with 121 residential units spread throughout the project area. The 121 lots have a minimum lot size of approximately 10,000 sf, rather than the 6,000 sf under the proposed project. Access to the Reduced Intensity Alternative 2 would be provided by one access point on Hungry Hollow Road and two access points along Virginiatown Road. By including 121 residential units, the Reduced Intensity Alternative 2 would not achieve the proposed project's objective of constructing a residential project in the 150-unit range; however, with an average lot size of 10,000 sf, the Reduced Intensity Alternative 2 would not provide lot sizes comparable to the nearby Lincoln Highlands subdivision, nor would the project provide a housing development with lot sizes for a broad range of homebuyers in the range of 150 units, with a number of units consistent with the 2008 Lincoln General Plan assumptions for the project site. Additionally, the Reduced Intensity Alternative 2 would not provide any open space, and, thus, would not meet project objective to

provide housing development with approximately twenty percent of the project site in open space.

The Reduced Intensity Alternative 2 would result in similar impacts as the proposed project in the majority of environmental resource areas evaluated in this EIR. However, impacts related to air quality, public services and utilities, and transportation and circulation would be fewer. In addition, the Reduced Intensity Alternative 2 would result in greater biological resource and hydrology and water quality related potential impacts, including removal of all biological resources on the project site, compared to the proposed project.

Environmentally Superior Alternative

The development of the Reduced Intensity Alternative 1 / Clustered Development and the Reduced Intensity Alternative 2 would partially satisfy the project objectives, while the No Project (No Build) Alternative would not satisfy any of the project objectives. The Reduced Intensity Alternative 1 / Clustered Development would result in reduced impacts, compared to the proposed project, in nine resource areas. Additionally, the Reduced Intensity Alternative 2 would result in reduced impacts, compared to the proposed project, in four resource areas.

As explained in further detail in Chapter 7, Alternatives Analysis, of this EIR, the No Project (No Build) Alternative would be considered the environmentally superior alternative, because the project site is assumed to remain in the current condition. However, Section 15126(e)(2) of the CEQA Guidelines states, "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Given that the no project alternative shall not be selected as the environmentally superior alternative, the Reduced Intensity Alternative 1 / Clustered Development becomes the environmentally superior alternative for the proposed project.

2.5 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

Areas of controversy that were identified in Notice of Preparation (NOP) comment letters, and are otherwise known for the Lincoln Area, within which the project site is located, include the following:

- Traffic increases along nearby roadways, particularly Virginiatown Road;
- Emergency access and evacuation of homes in site vicinity;
- Stormwater discharge;
- Increased light pollution; and
- Perimeter fence and entrance signage.

All of the above issues are addressed in this EIR in the relevant chapters.

2.6 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table 2-1 below summarizes the proposed project's impacts for each technical chapter (Chapters 4.1 through 4.10) in the EIR. In addition, Table 2-1 includes the level of significance of each impact, any mitigation measures required for each impact and the resulting level of significance after implementation of mitigation measures for each impact.

	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact		Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation		
			4.1 Aesthetics			
4.1-1	Substantial adverse effect on a scenic vista.	LS	None required.	N/A		
4.1-2	Substantially degrade the existing visual character or quality of the project site and/or the site's surroundings.	LS	None required.	N/A		
4.1-3	Creation of new sources of substantial light or glare that would adversely affect day or nighttime views in the area.	S	4.1-3 Prior to the issuance of building permits for any development on the project site, the project applicant shall submit a lighting plan for the project to the City of Lincoln Community Development Department for review and approval, demonstrating that proposed lighting is Dark-Sky compliant, as specified by the International Dark-Sky Association. The lighting plan shall specify design measures to ensure shielding of on-site lighting fixtures to direct the light downward (i.e., lighting shall not emit higher than a horizontal level) and prevent light spill onto adjacent properties.	LS		
4.1-4	Long-term changes in visual character of the region associated with cumulative development of the proposed project in combination with future buildout in the City of Lincoln.	LCC	None required.	N/A		

TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES						
	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation		
4.1-5	Cumulative impacts related to the creation of new sources of light or glare associated with development of the proposed project in combination with future buildout in the City of Lincoln.	LCC	None required.	N/A		
4.2-1	4.2 Air Quality and Greenhouse Gas Emissions					
4.2-1	Violate any air quality standard or contribute substantially to an existing or projected air quality violation during construction.	LS	None required.	N/A		
4.2-2	Violate any air quality standard or contribute substantially to an existing or projected air quality violation during operations, and conflict with or obstruct implementation of the applicable air quality plan.	S	4.2-2 Wood-burning fireplaces, woodstoves, or similar wood- burning devices shall be prohibited throughout the proposed project plan area. Homes may be fitted with the applicable regulation-compliant natural gas burning appliances if desired. The prohibition shall be included on any project plans submitted prior to issuance of building permits, subject to review and approval by the City's Community Development Department.	LS		
4.2-3	Expose sensitive receptors to substantial pollutant concentrations.	LS	None required.	N/A		
4.2-4	Create objectionable odors affecting a substantial number of people.	LS	None required.	N/A		

	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact		Level of Significance Prior to Mitigation	Mitigation Measures		Level of Significance After Mitigation	
4.2-5	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).	CC	4.2-5	Implement Mitigation Measure 4.2-2.	LCC	
4.2-6	Generation of GHG emissions that may have a significant impact on the environment or conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.	LCC	None requi	ired.	N/A	
4.2.1	Turneda ta anal 1 da an 1 da	C	Ŭ	ical Resources	LC	
4.3-1	Impacts to special-status plant species.	S	<i>4.3-1(a)</i>	Protocol-level special-status plant surveys were conducted at the project site on April 30, 2016 and no special-status plant species were identified. Survey results are valid for three years. If construction does not commence before April 2019, then new focused plant surveys shall be performed according to CDFW and CNPS protocol. If special-status plant species are not found during focused surveys, then further mitigation is	LS	

TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation		
		not necessary. If special-status plant species are found during future surveys, those individuals or populations shall be avoided to the maximum degree possible. If avoidance is not feasible, a mitigation plan shall be developed in consultation with CDFW personnel if it is a state listed (i.e., protected pursuant to the CESA) or a California Native Plant Society (CNPS) Rank 1B or Rank 2 plant. If the plant is state listed, an "incidental take" permit (i.e., a 2081 Agreement) shall be acquired for the project from CDFW prior to any grading within the project area. A copy of this permit shall be provided to the appropriate department within the City prior to any grading within the project area. Any conditions for the project established by CDFW in the 2081 Agreement shall become conditions of the project also enforceable by the City. If a plant is found on the project site that is a CNPS Rank 1B or 2 species, and the species is not otherwise			
		protected pursuant to state or federal regulations, prior to construction within the project area, a qualified botanist shall collect the seeds, propagules, and top soils, or other part of the plant that would ensure			

TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation		
		successful replanting of the population elsewhere. The seeds, propagules, or other plantable portion of all plants shall be collected at the appropriate time of the year. Half of the seeds and top soils collected shall be appropriately stored in long-term storage at a botanic garden or museum (for example, Rancho Santa Ana Botanic Garden). The other half of the seeds, propagules, or other plantable portion of all plants shall be planted at the appropriate time of year (late-fall months) in an area of the subject property or off-site, protected property that will not be impacted by the project (if the project has a designated off-site mitigation site for impacts on other special-status species, the plants can be seeded on the mitigation site). This area shall be fenced with permanent fencing (for example, chain link fencing or post and cable fencing) to ensure protection of the species. The applicant shall hire a qualified biologist to conduct annual monitoring surveys of the transplanted plant population for a five- year period and shall prepare annual monitoring reports reporting the success or failure of the transplanting effort. These reports shall be submitted to the City no later than December 1 st each monitoring year.			

TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance Prior to Mitigation		Mitigation Measures	Level of Significance After Mitigation	
			 These steps shall be implemented prior to site disturbance. If the seeding/transplanting effort fails, the stored seeds and top soils can be taken out of long-term storage and sown in another location (either onsite or offsite) deemed suitable by the City and CDFW. This seeding effort shall then be monitored for an additional three-year period to ensure survivorship of the new population. Annual monitoring reports shall be submitted to the City for the three-year period. A CNDDB form shall be filled out and submitted to CDFW for any special-status plant species identified within the project site. Any mitigation plan developed in consultation with CDFW shall be implemented prior to the initiation of grading or issuance of a development permit. In lieu of the above prescribed mitigation, as allowed in writing by the City (for CEQA and/or state listed species), mitigation requirements may be satisfied via the purchase of qualified mitigation credits or the preservation of offsite habitat. 		
		4.3-1(b)	In the event the Placer County Conservation Plan is adopted prior to submittal of improvement plans for this		

SUM	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES				
Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation		
4.3-2 Have a substantial adverse effect on riparian habitat or other sensitive natural community, or federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	S	 project or prior to the project's own federal permits being obtained, then the above mitigation measure may be replaced with standard mitigation fees and conservation protocol to address this resource impact as set forth in the PCCP implementation document. If PCCP enrollment is chosen as mitigation for one or more biological resource area impacts, then the PCCP mitigation shall apply only to those species that are covered by the PCCP. 4.3-2(a) To the extent feasible, the project shall be designed to avoid and minimize adverse effects to wetlands and other waters of the United States within the project area. If impacts to wetlands will occur as a result of implementation of the proposed project, then prior to issuance of any grading permits, the project applicant shall acquire a Section 404 permit for fill of jurisdictional waters that cannot be avoided shall be provided in conformance with the USACE "no-net-loss" policy. 4.3-2(b) If a Section 404 permit is obtained, the applicant must also obtain a water quality certification from the RWQCB under Section 401 of the Clean Water Act (CWA) prior to issuance of any grading permits. 	LS		

SUM	IMARY OF IN		BLE 2-1 AND MITIGATION MEASURES	
Impact	Level of Significance Prior to Mitigation		Mitigation Measures	Level of Significance After Mitigation
		4.3-2(c)	In the event the Placer County Conservation Plan is adopted prior to submittal of improvement plans for this project or prior to the project's own federal permits being obtained, then the above mitigation measure may be replaced with standard mitigation fees and conservation protocol to address this resource impact as set forth in the PCCP implementation document. If PCCP enrollment is chosen as mitigation for one or more biological resource area impacts, then the PCCP mitigation shall apply only to those resources that are covered by the PCCP.	
4.3-3 Impacts to special-status invertebrate species.	S	4.3-3(a) 4.3-3(b)	Implement Mitigation Measure 4.3-2(a). Orange exclusionary fencing shall be placed, and a buffer area of 250 feet (or lesser distance deemed sufficiently protective by a qualified biologist with approval from USFWS) maintained, around any avoided (preserved) vernal pool crustacean habitat during construction to prevent impacts from construction vehicles and equipment. This fencing shall be inspected by a qualified biologist throughout the construction period to ensure that it is in good functional condition. Prior to beginning work on the project site, all on-site construction personnel shall receive instruction regarding the presence of listed species and the	LS

SUM	IMARY OF IN		BLE 2-1 ND MITIGATION MEASURES	
Impact	Level of Significance Prior to Mitigation		Mitigation Measures	
		4.3-3(c)	importance of avoiding impacts to these species and their habitat. In the event the Placer County Conservation Plan is adopted prior to submittal of improvement plans for this project or prior to the project's own federal permits being obtained, then the above mitigation measure may be replaced with standard mitigation fees and conservation protocol to address this resource impact as set forth in the PCCP implementation document. If PCCP enrollment is chosen as mitigation for one or more biological resource area impacts, then the PCCP mitigation shall apply only to those species that are covered by the PCCP.	
4.3-4 Impacts to special-status reptile and amphibian species.	S	Western Sp 4.3-4 (a)	 adefoot Toad The following best management practices shall be implemented prior to and during construction as specified below: For work conducted during the western spadefoot toad migration and breeding season (November 1 to May 31), a qualified biologist will survey the active work areas (including access roads) in mornings following measurable precipitation events. Construction may 	LS

SUM	MARY OF IN	TABLE 2-1 IPACTS AND MITIGATION MEASURES	
Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		 commence once the biologist has confirmed that no spadefoot toads are in the work area. When feasible, a 50-foot no-disturbance buffer shall be established around burrows that provide suitable upland habitat for western spadefoot toad. Burrows considered suitable for spadefoot shall be identified by a CDFW-qualified biologist. The biologist shall delineate and mark the no-disturbance buffer. If western spadefoot toad is found within the construction footprint, it will be allowed to move out of harm's way of its own volition or a qualified biologist will relocate the organism to the nearest burrow that is outside of the construction impact area. A qualified biologist will inspect underneath equipment and stored pipes greater than 1.2 inches (3 cm) in diameter for western spadefoot toad. Inspections shall occur bi-weekly from January 1 to April 30, and only for one to two days following a rain event during the remainder of the year (May 1 to December 31), when water temperatures in the toad's potential 	

SUM	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance Prior to Mitigation		Mitigation Measures	Level of Significance After Mitigation		
			 breeding pools is between the requisite 9 degrees Celsium (40 degrees Fahrenheit) and 30 degrees Celsius (86 degrees Fahrenheit). If any toads are found they shall be allowed to move out of the construction area under their own accord. Trenches and holes shall be covered and inspected daily for stranded animals. Trenches and holes deeper than one foot deep shall contain escape ramps (maximum slope of 2:1) to allow trapped animals to escape uncovered holes or trenches. Holes and trenches shall be 			
			 inspected prior to filling. All survey findings made by the biologist shall be compiled into survey reports for review by the City of Lincoln's Community Development Department. 			
		4.3-4(b) 4.3-4(c)	Implement Mitigation Measure 4.3-3(b) In the event the Placer County Conservation Plan is adopted prior to submittal of improvement plans for this project or prior to the project's own federal permits being obtained, then the above mitigation measure may			

SUM	MARY OF IN	TABLE 2-1 APACTS AND MITIGATION MEASURES	
Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
	magazon	 be replaced with standard mitigation fees and conservation protocol to address this resource impact as set forth in the PCCP implementation document. If PCCP enrollment is chosen as mitigation for one or more biological resource area impacts, then the PCCP mitigation shall apply only to those species that are covered by the PCCP. Giant Garter Snake 4.3-4(d) Construction shall be restricted to occur between May 1 and October 1 to ensure that any snakes in the vicinity are restricted to the immediate environs of the adjacent perennial waterway. If construction occurs between October 2 and April 30, a qualified biologist shall stake or otherwise mark a "no disturbance" zone which shall include a 200-foot buffer around any perennial waterway on-site. If construction occurs between May 1 and October 1, a qualified biologist shall stake or otherwise mark a "no disturbance" zone that shall include a 10- to 15-foot buffer around any perennial 	muguuvii
		 waterways on-site. 4.3-4(e) Construction personnel shall receive USFWS approved worker environmental awareness training. This training shall instruct workers to recognize giant garter snakes 	

SUM	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance Prior to Mitigation		Mitigation Measures			
		4.3-4(f)	and their habitat(s). Proof of completion of the environmental awareness training for construction personnel shall be provided to the City of Lincoln's Community Development Department, prior to commencement of construction activity. A qualified biologist shall survey the project site for giant garter snakes 24-hours prior to construction activities. Survey of the project area shall be repeated if a lapse in construction activity of two weeks or greater has occurred. If a snake is encountered during construction, activities shall cease until appropriate corrective measures have been completed or the qualified biologist has been determined that the snake will not be harmed. All survey findings made by the biologist shall be compiled into survey reports for review by the City of Lincoln's Community Development Department.			
		4.3-4(g)	Any dewatered habitat shall remain dry for at least 15 consecutive days after April 15 and prior to excavating or filling of the dewatered habitat.			
		4.3-4(h)	After completion of construction activities, any temporary fill and construction debris shall be removed and, wherever feasible, disturbed areas shall be restored			

SUM	IMARY OF IN	TABLE 2-1 MPACTS AND MITIGATION MEASURES	
Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		 to pre-project conditions. 4.3-4(i) In the event the Placer County Conservation Plan is adopted prior to submittal of improvement plans for this project or prior to the project's own federal permits being obtained, then the above mitigation measure may be replaced with standard mitigation fees and conservation protocol to address this resource impact as set forth in the PCCP implementation document. If PCCP enrollment is chosen as mitigation for one or more biological resource area impacts, then the PCCP mitigation shall apply only to those species that are covered by the PCCP. 	
4.3-5 Impacts to Swainson's hawk, white-tailed kite, and burrowing owl.	S	 Swainson's hawk and other raptors (e.g., white-tailed kite) 4.3-5(a) If project activity would commence between March 1st and September 15th, a qualified biologist shall be retained to conduct a preconstruction survey for active nests in suitable habitat on and within 0.25-mile of the project site no more than 14 days and no less than seven days before commencement of each construction phase. If this survey does not identify any nesting raptors within the project site that would be disturbed, and for Swainson's hawks only, within the 0.25-mile radius surrounding the project site, no further mitigation would be required. 	LS

SUM	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance Prior to Mitigation		Mitigation Measures			
		4.3-5(b)	If an occupied nest is present, CDFW guidelines recommend implementation of a 0.25-mile buffer for Swainson's hawk (CDFG 1994) and 500 feet for other tree-nesting raptors, but the size of the buffer may be adjusted if a qualified biologist and CDFW determine that it would not be likely to adversely affect the nest. No project activity shall commence within the buffer area until a qualified biologist confirms that the nest is no longer active or that the young have fully fledged. Monitoring of the nest by a qualified biologist shall be required if the activity has potential to adversely affect the nest. For Swainson's hawks, no intensive new disturbances or other project-related activities that could cause nest abandonment or forced fledging, shall be initiated within the 0.25-mile (buffer zone) of an active nest between March 1 - September 15 (CDFG 1994).			
		4.3-5(c)	The grassland habitat present at the proposed project site is considered suitable foraging habitat for Swainson's hawks. Prior to the commencement of construction, a qualified biologist shall determine if an active Swainson's hawk nest is located within 10 miles of the project site. If a nest is located within 10 miles of the project site, the project applicant shall provide			

TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES				
Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation	
		 mitigation for loss of foraging habitat through the dedication of land suitable for replacement Swainson's hawk foraging habitat. Habitat land dedication shall be made at a 1:1 ratio if the Swainson's hawk nest is within one mile of the project site, 0.75:1 if the Swainson's hawk nest is within five miles of the project site, and 0.5:1 if the Swainson's hawk nest is within five miles of the project site, and 0.5:1 if the Swainson's hawk nest is within ten miles of the project site. The location of the replacement foraging habitat shall be coordinated with, and approved by, the CDFW, and shall be acquired prior to issuance of a grading permit. If active nests are not reported within ten miles of the project site, land dedication is not required. 4.3-5(d) In the event the Placer County Conservation Plan is adopted prior to submittal of improvement plans for this project or prior to the project's own federal permits being obtained, then the above mitigation measure may be replaced with standard mitigation fees and conservation protocol to address this resource impact as set forth in the PCCP implementation document. If PCCP enrollment is chosen as mitigation for one or more biological resource area impacts, then the PCCP mitigation shall apply only to those species that are covered by the PCCP. 		

TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation		
		 Burrowing Owl 4.3-5(e) A preconstruction survey shall be conducted by a qualified biologist or ornithologist during both the wintering and nesting season, unless the species is detected on the first survey. If possible, the winter survey shall be conducted between December 1 and January 31 (when wintering owls are most likely to be present) and the nesting season survey should be conducted between April 15 and July 15 (the peak of breeding season). Surveys conducted from two hours before sunset to one hour after, or from one hour before to two hours after 			
		sunrise, are preferable. The survey techniques shall be consistent with the Staff Report survey protocol and include a 260-foot-wide buffer zone surrounding the Study Area. Repeat surveys should also be conducted not more than 30 days prior to initial ground disturbance to inspect for re-occupation and the need for additional protection measures. The survey(s) shall be paid for by the applicant and approved by the City of Lincoln Community Development Department. Survey Results would be valid only for the season during which the survey is conducted. The survey results shall be submitted to CDFW and the City of Lincoln Community Development Department.			

SUM	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance Prior to Mitigation		Mitigation Measures			
			If burrowing owls are not detected during preconstruction surveys, then further mitigation is not required.			
		4.3-5(f)	If burrowing owls are found during the breeding season (February 1-August 31), the project proponent shall avoid all nest sites that could be disturbed by project construction during the remainder of the breeding season, or while the nest is occupied by adults or young.			
			Avoidance shall include establishment of a 160-foot non-disturbance buffer zone. Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation, or that the juveniles from the occupied burrows have fledged.			
		4.3-5(g)	If destruction of the occupied burrow is unavoidable during the non-breeding season (September 1-January 31), the project proponent shall avoid the owls and the burrows they are using, if possible. Avoidance shall include the establishment of a 160-foot non-disturbance buffer zone. If occupied burrows for burrowing owls are not avoided, passive relocation shall be implemented. Owls shall be excluded from burrows in the immediate impact zone and within a 160-foot buffer zone by			

SUM	IMARY OF IN	TABLE 2-1 IPACTS AND MITIGATION MEASURES	
Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		 installing one-way doors in burrow entrances. These doors shall be in place for 48 hours prior to excavation. The project area shall be monitored daily for 1 week to confirm that the owl has abandoned the burrow. Whenever possible, burrows shall be excavated using hand tools and refilled to prevent re-occupation. Plastic tubing or a similar structure shall be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow. No permit is required to conduct passive relocation; however, this process shall be conducted by a qualified biologist and in accordance with CDFG guidelines. In addition, to offset the loss of foraging and burrow habitat on the project site, a minimum of 6.5 acres of foraging habitat (calculated on a 300-ft foraging radius around the burrow) per pair or unpaired resident bird, shall be acquired and permanently protected at a location acceptable to the CDFG. If burrowing owls are identified on the project site, the City of Lincoln must receive copies of the Mitigation Agreement by and between the applicant and CDFG, prior to the issuance of grading permits for the proposed project. 	

	SUM	IMARY OF IN		BLE 2-1 AND MITIGATION MEASURES	
	Impact	Level of Significance Prior to Mitigation		Mitigation Measures	Level of Significance After Mitigation
4.3-6	Impacts to other special-status bird species and migratory birds.	S	4.3-5(h) 4.3-6(a)	In the event the Placer County Conservation Plan is adopted prior to submittal of improvement plans for this project or prior to the project's own federal permits being obtained, then the above mitigation measure may be replaced with standard mitigation fees and conservation protocol to address this resource impact as set forth in the PCCP implementation document. If PCCP enrollment is chosen as mitigation for one or more biological resource area impacts, then the PCCP mitigation shall apply only to those species that are covered by the PCCP. The project applicant shall implement the following measures to avoid or minimize impacts to protected migratory bird species including song sparrows: • If any site disturbance or construction activity for any phase of development begins outside the	LS
				 February 1 to August 31 breeding season, a preconstruction survey for active nests shall not be required. If any site disturbance or construction activity for any phase of development is scheduled to begin between February 1 and August 31, a qualified biologist shall conduct a preconstruction survey for active tree nests and ground nests from publicly accessible areas 	

SUM	IMARY OF IN	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES				
Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation			
		 within 14 days prior to site disturbance for any phase of development. The survey area shall cover the construction site and a 100-foot radius surrounding the construction site. The preconstruction survey shall be submitted to the City of Lincoln Community Development Department for review. If no nesting migratory birds are found, then further mitigation measures are not necessary. If an active nest of a MBTA bird, or other CDFW-protected bird is discovered that may be adversely affected by any site disturbance, or an injured or killed bird is found, the project applicant shall immediately: Stop all work within a 100-foot radius of the discovery. Notify the City of Lincoln Community Development. Do not resume work within the 100-foot radius until authorized by the biologist. The biologist shall establish a minimum 100-foot Environmentally Sensitive Area (ESA) around the nest. The ESA may be reduced if the biologist determines that a smaller ESA would still adequately protect the active nest. 				

	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation		
			Further work may not occur within the ESA until the biologist determines the the nest is no longer active.			
			4.3-6(b) In the event the Placer County Conservation Plan adopted prior to submittal of improvement plans for the project or prior to the project's own federal permit being obtained, then the above mitigation measure may be replaced with standard mitigation fees and conservation protocol to address this resource impact a set forth in the PCCP implementation document. PCCP enrollment is chosen as mitigation for one of more biological resource area impacts, then the PCC mitigation shall apply only to those species that an covered by the PCCP.	s s y d s f r o		
4.3-7	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.	LS	None required.	N/A		

	SUM	IMARY OF IN		BLE 2-1 ND MITIGATION MEASURES	
	Impact	Level of Significance Prior to Mitigation		Mitigation Measures	Level of Significance After Mitigation
4.3-8	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	S	4.3-8	 Prior to Improvement Plan approval, the plans shall include the following applicable measures included in the Arborist Report and Native Oak Tree Inventory, prepared for the proposed project: The applicant shall install a four-foot tall, brightly colored (yellow or orange), synthetic mesh material fence around the one existing oak tree to be preserved. The fencing shall delineate an area that is at least the radius of which is equal to the largest radius of the protected tree's drip line plus one foot. The fence shall be installed prior to any site preparation or construction equipment being moved on-site or any site preparation or construction equipment of this site, including grading, shall not be allowed until this condition is satisfied. Any encroachment within the dripline of the one existing oak tree to be saved, must first be approved by a designated representative of the City's Community Development Or machinery may not occur until a representative of the City's Community Development Department has inspected and approved all temporary 	LS

SUI	MMARY OF IN	TABLE 2-1 IPACTS AND MITIGATION MEASURES	
Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		 construction fencing. Trees shall be preserved where feasible. This may include the use of retaining walls, planter islands, or other techniques commonly associated with tree preservation. The Improvement Plans shall indicate the location of the fencing and include a note describing the fencing requirements consistent with this mitigation measure. The project contractor shall implement the following guidelines before and during grading and construction for protection of the oak tree to be preserved: Plans and specifications shall clearly state protection procedures for the one existing oak tree on the project site. The specifications shall also include a 	maganon
		 provision for remedies if the oak tree is damaged; Vehicles, construction equipment, mobile offices, or materials shall not be parked, stored, or operated within the dripline of the oak tree to be preserved; Cuts and fills around the tree shall be avoided where feasible; 	

SUM	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES				
Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation		
		 Soil surface removal greater than one foot shall not occur within the driplines of the oak tree to be preserved. Cuts shall not occur within five feet of the trunk; Earthen fill greater than one foot deep shall not be placed within the dripline of the oak tree to be preserved, and fill shall not be placed within five feet of the trunk; Underground utility line trenching shall not be placed within the driplines of the oak tree to be preserved where feasible without first obtaining approval from a designated representative of the Community Development Department. If it is necessary to install underground utilities within the driplines of oak trees, boring or drilling rather than trenching shall be used, or such activity shall be performed with hand tools to avoid root injury; Paving shall not be placed in the vicinity of the oak tree to be preserved (at a minimum, within the dripline of the oak tree) without first obtaining approval 			

TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES				
	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.3-9	Cumulative loss of habitat in the	LCC	from a designated representative of the Community Development Department; and Irrigation lines or sprinklers shall not be allowed within the dripline of the oak to be preserved. None required.	N/A
4.3-9	City of Lincoln area for special- status species.		None requirea.	IN/A
			4.4 Cultural Resources	
4.4-1	Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines, Section 15064.5.	S	4.4-1 During construction activities, if any subsurface historic remains are uncovered, all work shall be halted, the City of Lincoln Community Development Department shall be notified, and the applicant shall retain a qualified cultural resources consultant to identify and investigate any subsurface historic remains, and define their physical extent and the nature of any built features or artifact-bearing deposits. The investigation shall proceed immediately into a formal evaluation to determine the eligibility of the feature(s) for the California Register of Historical Resources. The formal evaluation shall include, at a minimum, additional exposure of the feature(s), photo-documentation and recordation, and analysis of the artifact assemblage(s).	LS

	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES				
Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation		
		If the evaluation determines that the features and artifacts do not have sufficient data potential to be eligible for the California Register, additional work shall not be required. However, if data potential exists (e.g., an intact feature is identified with a large and varied artifact assemblage), further mitigation would be necessary, which might include avoidance of further disturbance to the resources through project redesign. If avoidance is determined to be infeasible, additional data recovery shall be conducted for the resource(s) to collect enough information to exhaust the data potential of those resources. Data recovery efforts can range from rapid photographic documentation to extensive excavation depending upon the physical nature of the resource. The degree of effort shall be determined at the discretion of a qualified cultural resources consultant and should be sufficient to recover data considered important to the area's history and/or prehistory.			
4.4-2 Cause a substantial adverse change in the significance unique archeological reson defined in CEQA Guidelin Section 15064.5, or distur- human remains, including interred outside of formal cemeteries.	of a urce as nes, b any	4.4-2(a) If any prehistoric artifacts or other indications of archaeological and/or cultural resources are found during grading and construction activities, all work within 100 feet of the find shall cease and the applicant shall retain a qualified archaeologist to evaluate the find(s) and notify the United Auburn Indian Community of the Auburn Rancheria. If the resource is determined to be eligible for inclusion in the California Register of	LS		

TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES				
Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation	
		 Historical Resources and project impacts cannot be avoided, data recovery shall be undertaken. Pursuant to CEQA Guidelines Section 15126.4(b)(3)(C), a data recovery plan, which makes provisions for adequately recovering the scientifically consequential information from and about the resource, shall be prepared and adopted prior to any excavation being undertaken. Such studies shall be deposited with the California Historical Resources Regional Information Center. Significance determinations for tribal cultural resources shall be measured in terms of criteria for inclusion on the California Register of Historical Resources (Title 14 CCR, §4852[a]), and the definition of tribal cultural resource(s) shall include culturally appropriate temporary and permanent treatment, which may include avoidance of tribal cultural resources, in-place preservation, and/or re-burial on project property so the resource(s) are not subject to further disturbance in perpetuity. Any reburial shall occur at a location predetermined between the landowner and the United Auburn Indian Community of the Auburn Rancheria. 		

SUM	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation			
		 are found on the project site to the United Auburn Indian Community of the Auburn Rancheria for proper treatment and disposition. If an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation. This language of this mitigation measure shall be included on any future grading plans and utility plans approved by the City of Lincoln for the project site. 4.4-2(b) If human remains of Native American origin are discovered during project construction, further disturbance shall not occur within 100 feet of the vicinity of the find(s) until the Placer County Coroner has made the necessary findings as to origin. (California Health and Safety Code Section 7050.5) Further, pursuant to California Public Resources Code Section 5097.98(b), remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Placer County Coroner determines the remains to be Native American, the Native American Heritage Commission (NAHC) and the United Auburn Indian Community of the Auburn Rancheria must be contacted within 24 hours. The NAHC and United Auburn Indian Community of the Auburn Rancheria must then identify the "most likely 				

	SUM	IMARY OF IN	TABLE 2-1 IPACTS AND MITIGATION MEASURES	
	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.4.2	Directly on indirectly destroy of	S	descendant(s)" (MLD). The landowner shall engage in consultations with the MLD. The MLD will make recommendations concerning the treatment of the remains within 48 hours, as provided in Public Resources Code 5097.98.	LS
4.4-3	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	S	4.4-3 During construction activities, if any vertebrate bones or teeth are found, all work shall be halted in the immediate vicinity of the discovery, and the applicant shall notify the City of Lincoln Community Development Department and retain a qualified paleontologist to inspect the discovery. If deemed significant with respect to authenticity, completeness, preservation, and identification, the resource(s) shall then be salvaged and deposited in an accredited and permanent scientific institution (e.g., University of California Museum of Paleontology), where the discovery would be properly curated and preserved for the benefit of current and future generations. Following the discovery of such paleontological resources and prior to the recommencement of construction activity in the area of discovery, the City of Lincoln's Community Development Department shall further consult with the qualified paleontologist for the consideration and potential implementation of a construction monitoring program for the remainder of the construction activity. The language of this mitigation measure shall be	

	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES						
	Impact Level of Significance Prior to Mitigation		Mitigation Measures	Level of Significance After Mitigation			
			included on any future grading plans, utility plans, and improvement drawings approved by the City of Lincoln Community Development Department for the proposed project site, where excavation work would be required.				
4.4-4	Directly or indirectly disturb or destroy a unique tribal cultural resource, such as a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American tribe.	S	4.4-4 Implement Mitigation Measures 4.4-2(a) and (b) and 4.4-3.	LS			
4.4-5	Cumulative development in the City of Lincoln, in conjunction with the development of the proposed project, could contribute incrementally to the regional loss of cultural resources in the City of Lincoln.	LS	None required.	N/A			
		4.5	Soils, Geology, and Seismicity				
4.5-1	Expose people or structures to potential substantial adverse effects, including risk of loss, injury, or death due to strong seismic ground shaking or liquefaction.	LS	None required.	N/A			

	SUM	IMARY OF IN	TABLE 2-1 MPACTS AND MITIGATION MEASURES	
	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.5-2	Substantial erosion or the loss of topsoil.	LS	None required.	N/A
4.5-3	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; or, be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code.	S	4.5-3 Prior to issuance of a grading permit, the grading plans shall incorporate all geotechnical recommendations specified in the Preliminary Geotechnical Engineering Investigation prepared by CTE CAL (2015) for the proposed project. All grading and foundation plans for the development must be reviewed and approved by the City Engineer and Chief Building Official prior to issuance of grading and building permits in order to ensure that recommendations in the Preliminary Geotechnical Engineering Investigation are properly incorporated and utilized in the project design.	LS
4.5-4	Cumulative geological impacts and hazards.	LCC	None required.	N/A
		4.6	Hydrology and Water Quality	
4.6-1	Substantially alter the existing drainage pattern of the site or area, or create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems.	LS	None required.	N/A
4.6-2	Violate any water quality standards or waste discharge requirements, provide substantial	S	4.6-2 Prior to initiation of any ground disturbing activities, the project applicant shall prepare a SWPPP, and implement BMPs that comply with the General	LS

	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES				
	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation	
	additional sources of polluted runoff, or otherwise substantially degrade water quality during construction.		Construction Stormwater Permit from the Central Valley RWQCB, to reduce water quality effects during construction. Such BMPs may include: temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation. The SWPPP shall be kept on-site and implemented during construction activities and shall be made available upon request to representatives of the City of Lincoln and/or RWQCB.		
4.6-3	Violate any water quality standards or waste discharge requirements, provide substantial additional sources of polluted runoff, or otherwise substantially degrade water quality during operations.	LS	None required.	N/A	
4.6-4	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge.	LS	None required.	N/A	
4.6-5	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.	LS	None required.	N/A	

	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation		
4.6-6	Cumulative impacts related to hydrology and water quality within the City of Lincoln.	LCC	None required.	N/A		
		4.7 Land Us	e and Planning / Agricultural Resources			
4.7-1	Conflict with any applicable land use plans, policies, or regulations of an agency with jurisdiction over the project (including, but not limited to the general plan or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	LS	None required.	N/A		
4.7-2	Convert Prime Farmland, Farmland of Statewide Importance, or Unique Farmland (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping Program of the California Resources Agency, to non-agricultural use or involve other changes in the existing environment which, due to their location or nature, could result in loss of Farmland to non- agricultural use.	NI	None required.	N/A		

	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES				
	Impact		Mitigation Measures	Level of Significance After Mitigation	
4.7-3	Conflict with existing zoning for agricultural use, or a Williamson Act contract.	LS	None required.	N/A	
4.7-4	Conflict with adjacent land uses.	LS	None required.	N/A	
4.7-5	Cumulative land use and planning incompatibilities.	LS	None required.	N/A	
4.7-6	Cumulative loss of Important Farmland.	NI	None required.	N/A	
			4.8 Noise		
4.8-1	Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	S	4.8-1 Consistent with the Environmental Noise and Vibration Assessment prepared by Bollard Acoustical Consultants, Inc., prior to approval of improvement plans, the plans shall show a seven-foot-tall noise barrier to be erected on Virginiatown Road, as shown in Figure 4.8-3 of the Lincoln Meadows EIR, subject to review and approval by the City Engineer. The barrier height shall be seven feet relative to the building pad elevation for the proposed project.	LS	
4.8-2	Cause a substantial permanent increase in ambient noise levels in the project vicinity above existing levels without the project.	LS	None required.	N/A	

	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES						
	Impact	Level of Significance Prior to Mitigation		Mitigation Measures	Level of Significance After Mitigation		
4.8-3	Expose persons to, or generate, excessive groundborne vibration or groundborne noise levels.	LS	None requ	ired.	N/A		
4.8-4	Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing levels without the project.	S	4.8-4(a)	The project contractor shall ensure that construction activities shall be limited to the hours allowed in the City's Public Facilities Improvement Standards between 7:00 AM to 7:00 PM, Monday through Friday. If construction is necessary on Saturday, Sunday and Holidays the applicant shall submit a written request to the Director of Public Works or City Engineer, as applicable, 72-hours prior to the desired construction. If work is allowed outside aforementioned work hours, the applicant shall have a copy of the written approval available at the work site. The construction activities hours shall be included in the grading plan submitted by the developer for review and approval by the City Engineer prior to grading permit issuance.	LS		
			4.8-4(b)	The project contractor shall ensure that all internal combustion engines associated with stationary and mobile construction equipment to be used on the project site shall have adequate mufflers equal to or better than those supplied with the equipment by the manufacturer. The muffler requirement shall be included in the grading plan submitted by the developer for review and approval by the Community Development Department prior to			

	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
	Impact	Level of Significance Prior to Mitigation		Mitigation Measures		
				grading permit issuance		
			4.8-4(c)	All construction equipment with back-up alarms shall be equipped with either audible self-adjusting backup alarms or alarms that only sound when an object is detected. The self-adjusting backup alarms shall automatically adjust to 5 dBA over the surrounding background levels. All non-self-adjusting backup alarms shall be set to the lowest setting required to be audible above the surrounding noise levels. In addition to the use of backup alarms, the construction contractor shall consider other techniques such as observers and the scheduling of construction activities such that alarm noise is minimized.		
			4.8-4(d)	The project contractor shall ensure that the on-site construction staging areas shall be located as far as practical from existing residential areas. The aforementioned requirement shall be included in the grading plan submitted by the developer for review and approval by the Community Development Department prior to grading permit issuance.		
4.8-5	Cumulative on-site noise impacts.	CC	4.8-5(a)	Implement Mitigation Measure 4.8-1.	LCC	
	impuero.		4.8-5(b)	Prior to issuance of Building Permits, the applicant shall show on the construction drawings that all upper-		

	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES				
	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation	
		1.62	floor windows of residences located adjacent to Virginiatown Road, with views of the roadway, shall be upgraded to STC-32, to control interior noise and achieve the City's interior noise standards, for review and approval by the City Building Official.	27/1	
4.8-6	Cumulative off-site noise impacts.	LCC	None required.	N/A	
		4.9	9 Public Services and Utilities		
4.9-1	Result in substantial adverse physical impacts associated with the provisions of new or physically altered fire protection services, and/or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services.	LS	None required.	N/A	
4.9-2	Result in substantial adverse physical impacts associated with the provisions of new or physically altered police	LS	None required.	N/A	

	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation		
4.9-3	protection facilities, and/or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for sheriff protection services. Result in substantial adverse physical impacts associated with the provisions of new or physically altered school facilities, and/or the need for new or physically altered school	LS	None required.	N/A		
	facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for school facilities.					
4.9-4	Result in substantial adverse physical impacts associated with the provisions of new parks or	LS	None required.	N/A		

	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation		
4.9-5	other public facilities, and/or the need for new or physically altered parks or other public facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for parks or other public facilities. Would the project have	LS	None required.	N/A		
	sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.					
4.9-6	Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board or result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in	LCC	None required.	N/A		

	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES						
	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation			
	addition to the provider's existing commitments.						
4.9-7	Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs or fail to comply with federal, State, and local statutes and regulations related to solid waste.	LS	None required.	N/A			
4.9-8	Would the project have sufficient gas and electricity facilities.	LS	None required.	N/A			
4.9-9	Increase in demand for additional public services and utilities as a result of the proposed project and other projects proposed in the City of Lincoln area.	LCC	None required.	N/A			
		4.10	Transportation and Circulation				
4.10-1	Impacts to study intersections.	S	4.10-1 Prior to issuance of a building permit, the project applicant shall pay its fair-share cost towards signalization of the 12 th Street/East Avenue intersection. This improvement is included in the City's updated PFE fee program. Therefore, PFE credits would be given to the constructing party. Alternatively, the City may	LS			

SU	TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation			
		require the project applicant to construct the improvements and provide it with a right of reimbursement from third parties who also benefit from the improvement. Payment by the applicant of the City's PFE transportation fees shall represent the project's fair share of this improvement.				
4.10-2 Impacts to study roadway segments.	LS	None required.	N/A			
4.10-3 Impacts to study freeway facilities.	LS	None required.	N/A			
4.10-4 Impacts to transit facilities.	LS	None required.	N/A			
4.10-5 Impacts to bicycle and pedestrian facilities.	LS	None required.	N/A			
4.10-6 Impacts to emergency vehicle access.	LS	None required.	N/A			
4.10-7 Construction Impacts.	S	 4.10-7 Prior to the commencement of construction, the project applicant shall prepare a detailed Construction Traffic Management Plan subject to review and approval by the City Department of Public Works. At a minimum, the plan shall include: The number of truck trips, time, and day of street closures; Time of day of arrival and departure of trucks; Provision of a truck circulation pattern; Identification of detour routes and signing plan 	LS			

TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation	
			 for street closures, if necessary; Maintain safe and efficient access routes for emergency vehicles; Manual traffic control when necessary; Proper advance warning and posted signage concerning street closures; and Provisions for pedestrian and bicycle safety. A copy of the Construction Traffic Management Plan shall be submitted to local emergency response agencies and transit providers. Such agencies shall be notified at least 30 days prior to the commencement of any construction that would partially or fully obstruct roadways.		
	ts related to increased hazards.	LS	None required.	N/A	
4.10-9 Cumul interse	lative impacts to study actions.	S	 4.10-9 Prior to issuance of a building permit, the project applicant shall fully fund the following improvements to the intersection of Virginiatown Road/Hungry Hollow Road: Actuated-uncoordinated signalization, which is able to detect the presence of vehicles via sensors in the pavement; and Adding a right-turn pocket on the eastbound approach. 	LCC	

MM = Mitigation Measure; NI = No Impact; N/A = Not Applicable; CC = Cumulatively Considerable; LCC = Less Than Cumulatively Considerable; LS = Less-than-Significant; S = Significant; SU = Significant and Unavoidable

TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation		
		The applicant shall be subject to PFE Transportation fee credits if the improvements are subsequently included in the City's updated PFE;			
		Or			
		If, prior to the issuance of building permits, the City's PFE in effect at the time, includes the following improvements to the Virginiatown Road/Hungry Hollow Road intersection, then the applicant shall pay its fair share cost towards the improvements through payment of the City's PFE Transportation fee:			
		 Actuated-uncoordinated signalization, which is able to detect the presence of vehicles via sensors in the pavement; and Adding a right-turn pocket on the eastbound approach. 			
4.10-10 Cumulative impacts to study roadway segments.	CC	None feasible.	SU		
4.10-11 Cumulative impacts to freeway facilities.	LCC	None required.	N/A		
4.10-12 Cumulative impacts to transit facilities.	LS	None required.	N/A		

MM = Mitigation Measure; NI = No Impact; N/A = Not Applicable; CC = Cumulatively Considerable; LCC = Less Than Cumulatively Considerable; LS = Less-than-Significant; S = Significant; SU = Significant and Unavoidable

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TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES						
Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation			
4.10-13 Cumulative impacts to bicycle and pedestrian facilities.	LS	None required.	N/A			
4.10-14 Cumulative impacts to emergency vehicle access.	LS	None required.	N/A			
4.10-15 Cumulative construction impacts.	LS	None required.	N/A			

MM = Mitigation Measure; NI = No Impact; N/A = Not Applicable; CC = Cumulatively Considerable; LCC = Less Than Cumulatively Considerable; LS = Less-than-Significant; S = Significant; SU = Significant and Unavoidable

Chapter 2.0 – Executive Summary

3. PROJECT DESCRIPTION

PROJECT DESCRIPTION

3.1 INTRODUCTION

Pursuant to CEQA Guidelines Section 15124, an EIR is required to include a project description that includes the following information: project location; surrounding land uses; project objectives; a general description of the project's technical, economic, and environmental characteristics; and a statement briefly describing the intended uses of the EIR, including a list of agencies expected to use the EIR, a list of permits and other approvals required to implement the project, and a list of related environmental review required by federal, state or local laws, regulations and policies. According to Section 15124 of CEQA Guidelines, the project description is not required to supply extensive detail beyond that needed for evaluation and review of the environmental impacts. This chapter provides an overall general description of the existing environmental conditions; however, detailed discussions of the existing setting in compliance with CEQA Guidelines Section 15125, as it relates to each given potential environmental impact area, is included in each technical chapter of this EIR.

The proposed project would include the development of approximately 144 single-family lots, two landscape lots, a 7.67-acre open space lot, a 0.28-acre open space lot, and roadway and utility improvements. The residential lots are proposed to have a minimum 6,000-square-foot (sf) area. The open space lot would include stormwater detention basins, with portions of the basins intended to serve as a wetland preserve.

3.2 **PROJECT LOCATION**

The project site is located north of Virginiatown Road and west of Hungry Hollow Road within an unincorporated area of Placer County (see Figure 3-1). The project site is located within the City of Lincoln Sphere of Influence (SOI), within the Village 2 planning area of the 2008 City of Lincoln General Plan. The total project area consists of approximately 43.87 acres, which includes the 40-acre tentative map site (APN 021-231-018), an approximately 2.15-acre linear parcel between the tentative map site and Hungry Hollow Road (APN 021-250-001), a 1.2-acre portion of Hungry Hollow Road fronting APN 021-250-001, and the northern portion of Virginiatown Road fronting the tentative map site (see Figure 3-2). Table 3-1 presents the current property owner of each property included in the proposed project.

3.3 PROJECT SETTING AND SURROUNDING LAND USES

The proposed project site's existing characteristics and surrounding land uses are discussed below.

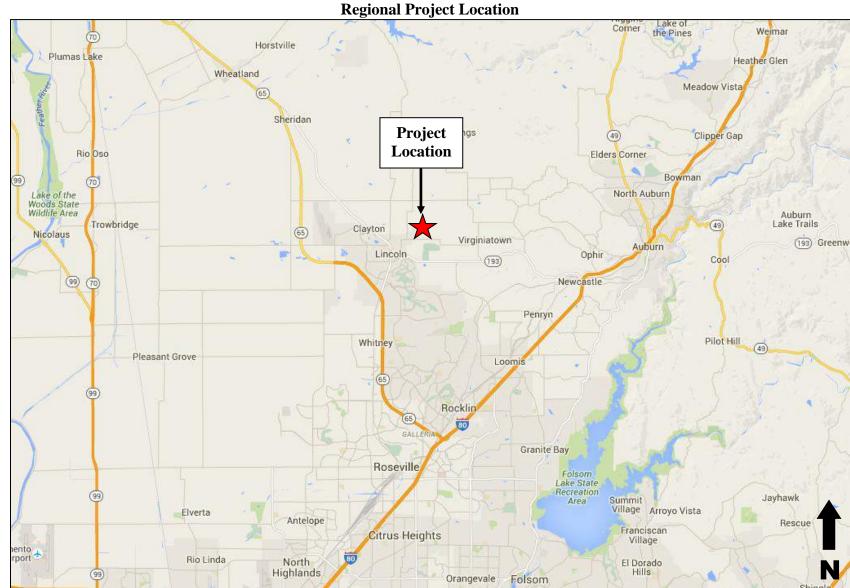


Figure 3-1 Regional Project Location

CHAPTER 3 – PROJECT DESCRIPTION

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Figure 3-2 Project Vicinity Map



Table 3-1 Property Ownership					
Property	Property Owner				
APN 021-231-018 (40-acre Tentative Map Site)	RBM Land Company, LLC				
APN 021-250-001 (2.15-acre Linear Parcel)	Placer County				
Hungry Hollow Road (Portion)	Placer County				
Virginiatown Road (Portion)	Placer County				

Site Characteristics

The combined 40-acre tentative map site and 2.15-acre linear parcel consist of undeveloped rolling annual grassland, approximately 1.39 acres of wetland features, including vernal pools, seasonal wetlands, a portion of the Lincoln canal, and ditches along Virginiatown Road and Hungry Hollow Road, one valley oak tree, and several smaller trees. Irregular water ponding in the form of vernal pools combined with small mounding characterize the site topography. The mounds measure between 50 centimeters to 1.5 meters (approximately 1.5 feet to 4.9 feet) in diameter. The site is at approximately 200 feet above mean sea level (msl), and is within the Auburn Ravine watershed to the south and Markham Ravine watershed to the northwest. The natural slope of the terrain ranges, on average, between two and five percent gradient.

An existing Nevada Irrigation District (NID) canal, referred to as the "Lincoln Canal," bisects the site from east to west. The portion of the Lincoln Canal that traverses through the site ranges between five and seven feet in width and has an average depth of 18 inches. The Lincoln Canal supplies a portion of the City of Lincoln's agricultural water needs. Remnants of an earthen dam, historically used to contain water for agricultural uses in the project area, are present along the eastern property boundary.

The 1.2-acre portion of Hungry Hollow Road that is part of the proposed project site includes the existing two-lane roadway and adjoining unpaved shoulders. Similarly, the Virginiatown Road portion of the project site includes the northern portion of the existing two-lane roadway and adjoining unpaved shoulder. Sidewalks or bicycle lanes are not provided along the aforementioned portions of Hungry Hollow Road or Virginiatown Road.

As discussed in the "Annexation Resolution" section below, the 2.15-acre linear parcel, and halfsections of Virginiatown Road and Hungry Hollow Road, all of which are owned by Placer County, are included in the overall project boundary for annexation purposes, consistent with LAFCo policy.

Surrounding Land Uses

Land uses in the vicinity of the project site are generally characterized primarily by the singlefamily residences associated with the Lincoln Highlands subdivision located to the west of the site and undeveloped agricultural land, as shown in Figure 3-2. The western edge of the property is bordered by a 40-foot-wide NID easement, then a 7-foot-high masonry block wall, after which is the single-family residential subdivision (see Figure 3-5). A 42-foot-wide irrevocable offer of dedication (IOD) exists along the entire length of the western boundary of the site, which is associated with a potential future collector road north of Virginiatown Road that was considered when the Lincoln Highlands subdivision project was approved.¹ The NID easement runs on top of the roadway IOD. The southern edge of the project site is bordered by Virginiatown Road, south of which is the decommissioned City landfill, which closed in 1976. The northern portion of the approved Village 1 Specific Plan is also south of Virginiatown Road. The eastern edge of the project site is bordered by rural residential uses and undeveloped lands (east of Hungry Hollow Road). The parcel to the north of the project site is undeveloped grassland, which is designated as Rural Residential and zoned Farm, by the County. Although the lot to the north of the project site since 2003. Carlin C. Coppin Elementary School is located approximately one mile west of the site, along Virginiatown Road. In addition, a new church (Church of Jesus Christ of Latter-day Saints) is located along Virginiatown Road, approximately 0.25-mile west of the site.

3.4 **PROJECT OBJECTIVES**

The following project objectives have been developed by the project applicant for the proposed project:

- 1. Provide the City of Lincoln with a project sized in the 150-unit range, with lot sizes comparable to those in the adjacent Lincoln Highlands subdivision, and consistent with the 2008 Lincoln General Plan assumptions for the project site;
- 2. Complete the land use planning for the last parcel in the 2008 Lincoln General Plan adjacent to the north side of Virginiatown Road and within the City's Sphere of Influence with a walkable residential development consistent with Blueprint principles of the Sacramento Area Council of Governments (SACOG);
- 3. Create an attractive gateway to Lincoln on Virginiatown Road from the east as residents and visitors enter the northeastern portion of the City;
- 4. Improve the City's tax base by replacing a long-standing undeveloped property with market ready housing and lot sizes attractive to a broad range of homebuyers;
- 5. Create a sustainable residential development that maximizes opportunities for energy efficiency, water conservation, and use of renewable energy systems; and
- 6. Provide a housing development with approximately twenty percent of the project site in open space.

¹ With the approval of the Village 1 Specific Plan, the future roadway that would have created a beltway loop road from Village 1 through Village 2 has been shifted eastward and now coincides with Hungry Hollow Road.

3.5 PROJECT COMPONENTS

This section of the Project Description chapter is arranged according to the entitlements being sought for the proposed project. The order of entitlements is based upon first discussing City of Lincoln approvals, given that the City is the CEQA lead agency for the project, and secondly discussing Placer County Local Agency Formation Commission (LAFCo) approvals, as LAFCo is considered a responsible agency for the Lincoln Meadows project.

City of Lincoln Approvals

The following City of Lincoln approvals would be required for the proposed project.

Annexation Resolution

The proposed project site is located within the City of Lincoln Sphere of Influence (SOI), within the Village 2 planning area of the 2008 City of Lincoln General Plan. Implementation of the project would require City of Lincoln approval of an annexation resolution authorizing submittal of an annexation application to Placer County LAFCo for the project site. Policy I.D. of the Placer County LAFCo states that roadways adjacent to a property being annexed should be included in the annexation request if among other factors, the primary users of that portion of the road would most likely be generated by the annexing entity. Therefore, the annexation resolution submitted to Placer County LAFCo would include the project site, the portion of Virginiatown Road adjacent to the project site, the portion of Hungry Hollow Road adjacent to the project site, and the intervening 2.15-acre linear parcel to avoid the creation of an island property.

General Plan Amendment

The proposed project site currently has a Placer County General Plan Land Use designation of Rural Residential. According to the City's General Plan Land Use Diagram, the project site is currently designated Village, and is within the Village 2 planning area. The project includes a request to amend the City of Lincoln General Plan Land Use Diagram to remove the project site from Village 2 and re-designate 7.95 acres of the project site as Open Space and 35.92 acres as Low Density Residential (LDR) (see Figure 3-3). On October 22, 2013, the City of Lincoln City Council reached the consensus that removal of the project site from Village 2 was appropriate for the proposed project.²

² City Council, City of Lincoln. *City Council Meeting Minutes*. October 22, 2013.

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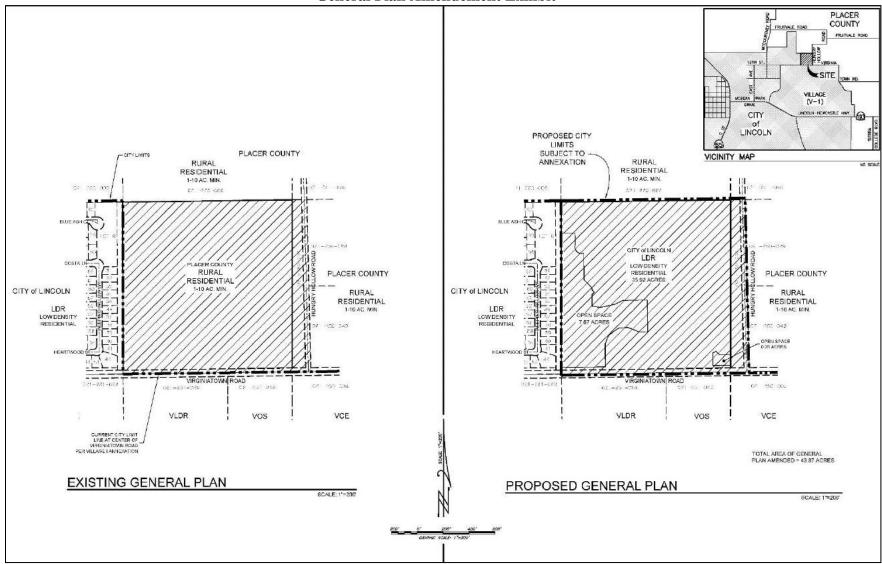


Figure 3-3 General Plan Amendement Exhibit

Prezone

The proposed project site is currently zoned by Placer County as Farm, 4.6-acre minimum. According to Government Code Section 56375(a)(4)(C)(7), LAFCo shall require, as a condition to annexation, that a city prezone any territory to be annexed. The proposed City prezoning designation for the project site is 7.95 acres of Open Space and 35.92 acres of R-1 Single Family Residential (see Figure 3-4).

Tentative Subdivision Map

The proposed project would include the subdivision and development of 144 one- and two-story single-family homes, two landscape lots, a 7.67-acre wetland open space lot with two stormwater detention basins, and a 0.28-acre open space lot. Residential lots would range in size from 6,000 square feet to 12,787 square feet, with an average lot size of 9,394 square feet.

Access and Circulation

Primary access to the project site, for Phase 1, would be provided by one access point from Virginiatown Road. In addition, one temporary emergency access point would be provided to the site from Virginiatown Road until such time that the future roadway connection to Hungry Hollow Road is constructed on a portion of the 2.15-acre linear parcel (see Figure 3-5).

As part of the project's frontage improvements, Hungry Hollow Road would be widened from 22 feet to 24 feet, and four-foot-wide paved shoulders would be added to both sides of the roadway along the project frontage (see Figure 3-6). Virginiatown Road would also be widened along the project frontage to include six-foot planters, curbs and gutters, and a concrete sidewalk (see Figure 3-7). The proposed sidewalk would connect to the existing Virginiatown Road sidewalk which currently ends at the site's southwestern corner at the Lincoln Highlands subdivision, and would provide a continuous pedestrian connection to the west. Project improvements also include repaving approximately 60,000 square feet of Virginiatown Road, which roughly equals the stretch of Virginiatown Road along the project's frontage.

On-site circulation for the project would be provided by 48-foot-wide and 54-foot-wide roadways. The roadways would be lined on both sides by street trees and sidewalks. The Phase 2 area of the proposed project would include a central roundabout to assist with on-site circulation. Two-car garages would be provided at a minimum for each proposed residence, in accordance with the City's Municipal Code, and a third garage bay may be included for each home depending on the home design. In addition, street parking would be allowed along the streets throughout the project site.

Landscaping and Open Space

The 7.67-acre open space area would be located in the southwestern corner of the site (see Lot A in Figure 3-5). The open space area would include two detention basins for stormwater quality and detention purposes with portions intended to serve as a wetland and vernal pool preserve. In addition, two landscape lots would be provided near the entryways to the subdivision. Two narrow

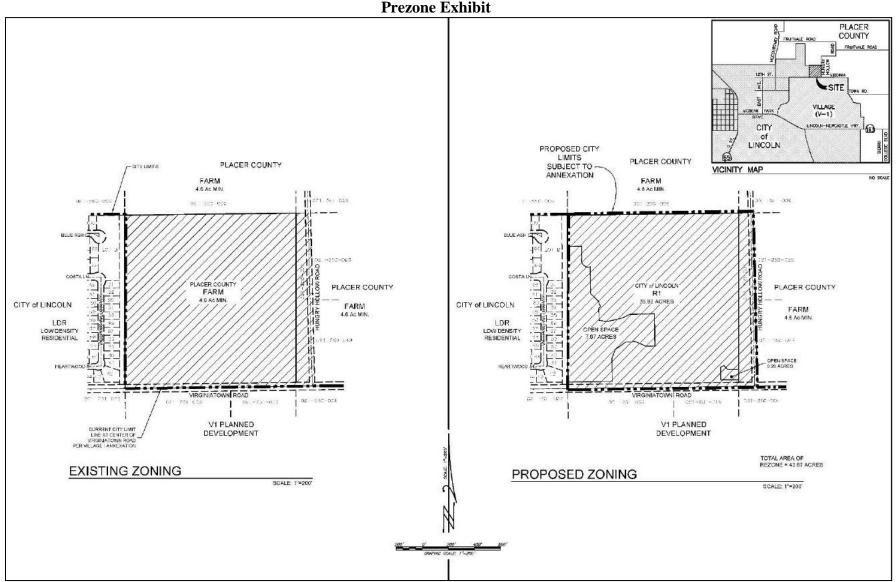


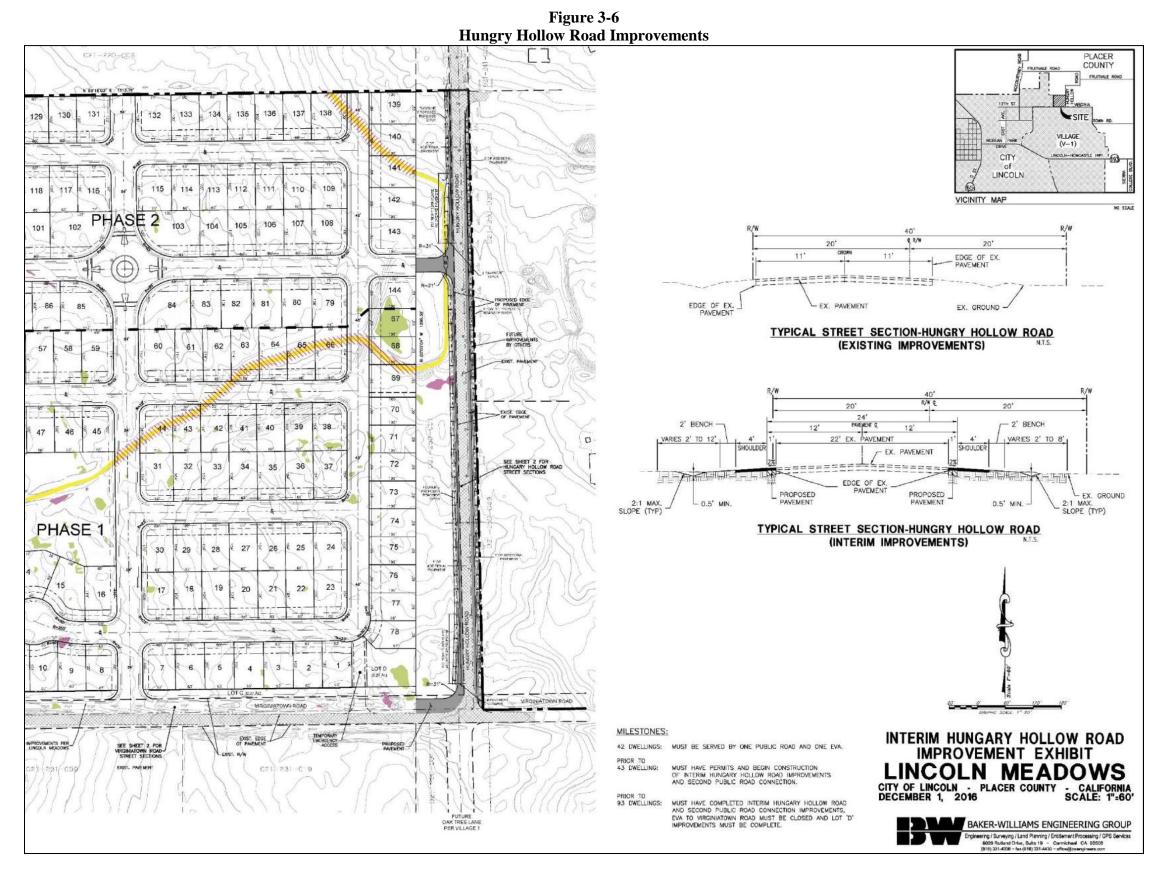
Figure 3-4 Prezone Exhibit

CHAPTER 3 - PROJECT DESCRIPTION



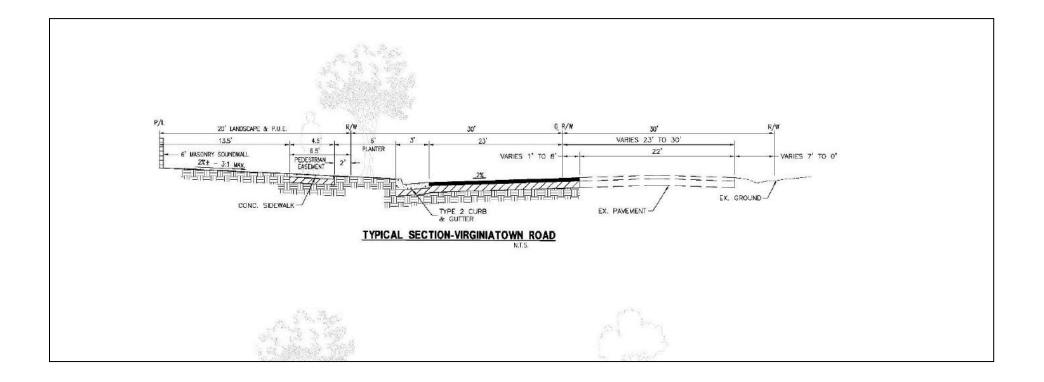
Figure 3-5

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Draft EIR Lincoln Meadows July 2017

Figure 3-7 Virginiatown Road Improvements



landscaping strips, including a 0.31-acre landscape lot and a 0.27-acre landscape lot, would be provided along the southern project frontage adjacent to Virginiatown Road (see Lots B and C in Figure 3-5). In addition, the applicant proposes a 0.28-acre open space lot that would be located at the southeastern corner of the 40-acre tentative map site adjacent to Virginiatown Road and Hungry Hollow Road (see Lot D in Figure 3-5).

As discussed in the Noise chapter of this EIR, for attenuation of traffic noise levels, a seven-foottall noise barrier is required to be erected along the southern boundary of the project site, specifically, along lots 1-12, and 78. The design of the wall will be determined during the design review process for the project, but is anticipated to be a masonry block wall with decorative cap, intended to visually resemble the existing wall for the adjacent Lincoln Highlands subdivision. Landscaping would be installed between the masonry wall and Virginiatown Road, which would consist of a six-foot planter, 6.5-foot pedestrian easement, and a 20-foot landscape easement.

City of Lincoln Utilities

The proposed project would require improvements to the following utility systems in order to support the operation of the project (see Figure 3-8).

Sewer Service

Sanitary sewer service would be provided to the project site by the City of Lincoln. The nearest sanitary sewer line is the 10-inch line located in Virginiatown Road; however, the line is capped at the City boundary near the southwestern corner of the site. The proposed project would include the extension of the 10-inch sanitary sewer line in Virginiatown Road to the southeastern corner of the site to serve the proposed project. Eight-inch sanitary sewer lines would be constructed in the proposed on-site roadways and connect to the extended Virginiatown Road sewer lines.

Water

Water service for the proposed project would be provided by the City of Lincoln. As part of the project, the existing 18-inch water line, which is stubbed at the project site's southwestern boundary, will be extended along Virginiatown Road to the southeastern corner of the site to serve the proposed project. From this 18-inch line, both a 12-inch water line and an eight-inch water line would be extended to the project site and within on-site roadways to transport water from City water lines to the proposed homes.

Drainage

The property lies within two watersheds, with the northern portion of the property, approximately 30 acres, draining toward Markham Ravine the southern portion of the property, approximately 12 acres, draining toward Auburn Ravine. With development of Lincoln Meadows, onsite runoff will continue to drain to both Markham Ravine and Auburn Ravine. The project grading has been designed to keep the overall area draining to each of the major watersheds as close to the existing split as possible. Under post-project conditions, 29 acres of the project site will drain north to Markham Ravine and 13 acres will drain south to Auburn Ravine. To mitigate for the potential

increases in runoff due to development, two detention basins are proposed to be constructed with the project, one for each of the major watersheds.

Currently, runoff exits the project site through four outfall structures. Three of the existing outfall structures are located on the southern portion of the site, and the fourth, which is in the form of a natural swale, is located near the northwest corner of the site. Runoff exiting the site from the three southern outfalls flows to Auburn Ravine, while the north outfall directs flows towards Markham Ravine. The proposed project would include limited improvements to the existing outfall infrastructure, including adding a drain inlet filter and replacement pipe to the south outfall, and replacing a single drain pipe under Virginiatown Road, which connects to the south outfall, with three, 15-inch pipes. The north and southwest outfalls would not be altered as part of the proposed project.

Nevada Irrigation District Canal

The proposed project includes the realignment and undergrounding of the existing NID canal that traverses generally through the center of the site. A 10-inch raw water line would be constructed within on-site roadways to reroute NID water from the northern boundary of the project site to an existing portion of the canal that would remain as part of the 7.67-acre open space lot (see Figure 3-8). Portions of the existing canal located within the proposed development area would then be filled in during grading (see red hashing in Figure 3-8). The canal transports water to the western boundary of the site, where the water enters an existing 10-inch pipe, and leaves the site. An additional 18-inch pipe near the 10-inch pipe is used to transport overflow from the NID canal, off-site, to the southwest outfall structure. The existing 18-inch pipe would continue to be used for NID overflow, and the proposed project does not include any alterations to the existing 18-inch NID pipe.

Phasing

The proposed project is anticipated to be developed in two phases. Material movement within the site is anticipated to balance, and material import or export is not anticipated during either phase of development. Although the proposed project is anticipated to develop in two phases, the Air Quality and Greenhouse Gas Emissions analysis, conducted for the proposed project and presented in Section 4.2 of this EIR, used the assumption that the proposed project would be constructed in a single phase. Assuming construction would occur over one phase rather than two phases provides a conservative analysis for air quality and greenhouse gas emissions estimating purposes. Nevertheless, the anticipated project phasing is presented below.

Phase 1 (Southern Portion)

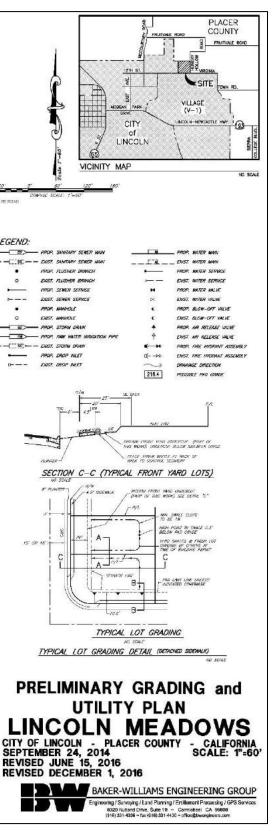
According to the Vesting Tentative Map, Phase 1 includes development of the southern portion of the proposed project, nearest to Virginiatown Road (see Figure 3-5). Phase 1 would include the construction of 78 single-family homes, two water detention basins within the 7.67-acre open space lot, a secondary open space lot, frontage improvements to Virginiatown Road, the two landscaping lots, and all accompanying internal roadways and utilities.

PLACEN COUNTY LINE 32. 209 139 95 131 133 134 136 137 138 127 130 135 125 128 129 132 124 126 94 294.5 140 18 ------ 1 E 93 141 0 BLUE ASH 關 112 121 119 118 205 117 1.16 115 114 113 111 110 109 120 92 123 122 25' SETEN 142 PHASE 2 LOT B 107 108 2.5' P.U.E 104 105 106 102 103 99 4005 2067 b 98 101 96 2,4.3 97 [25a 143 256. -000-- -20.57 - CER ----- 12 1 204.0 LEGEND: 6-144 83 -80 79 82 201.5 81 84 91 -90 89 88 87 86 85 PROP. FLUSHER BRANCH ٠ 1 C 205.0 0 EXIST. FLUSHER BRANCH PROP. SEWER SERVICE -----EXIST. SEWER SERVICE 63 64 65 60 62 68 31 PROP. MANHOLE EXIST. MANHOLE 1 14 53 207.3 54 56 57. 58 59 . 55 52 201.0 707.5 Q. IF 207.5 32 69 1000 - PROP. DROP INLET 33. 0---- EQST. DROP INCET ۶Щ°-70 (200) 38 41 40 2083 100 39 34 43 42 45 46 48. 47 71 49 1 50 |2/3 35 51 207.5 LAUT 72 32. LA COMON 31 33 34 36 37 35 E. /IE .36 EX NID DIT 73 211.0 a surce LOT A 37 (12) (7.67 Ac) 74 PHASE 1 6" PLANT 38 28 27 26 25 -24 75 29 30 25' SETEAC 39 76 bil. 15' CR 19 H 23 18 210.0 21 211.0 22 17 1 13 40 77 PER SUDARAS 41 10 78 1 12 DEFENTION, 4 42 10 209.1 43 4 206.0 208.0 206.3 _ No. FUTURE GAR TREE LANE PER VILLAGE 1 (82) -23 - 322 (m) 081 (sh1 059) 2' FOR FUL SLOPES ORENTER THAN 2' IN HEICHT REVISED JUNE 15, 2016 REVISED DECEMBER 1, 2016 LOWER PA STATE & MARYTANY NOTE: IMMON SECTION FOR SIDE TO SIDE WAD, SIDE TO REAR HARD & REAR TO REAR WAD SECTION 8-8 SECTION A-A NO SCALE

Figure 3-8 **Preliminary Grading and Utility Plan**

CHAPTER 3 – PROJECT DESCRIPTION

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Phase 2 (Northern Portion)

The northern portion of the proposed project includes 66 single-family homes, the connection of internal roadways to Hungry Hollow Road all accompanying internal roadways and utilities, and one roundabout in the center of the site to assist with internal roadway circulation.

Placer County LAFCo Approvals

Annexation

The proposed project includes a request for annexation of the approximately 40-acre tentative map site (APN 021-231-018); the approximately 2.15-acre linear parcel (APN 021-250-001), between the tentative map site and Hungry Hollow Road; the 1.2-acre portion of Hungry Hollow Road fronting APN 021-250-001; and the northern portion of Virginiatown Road fronting the tentative map site, into the City of Lincoln. Thus, the total annexation area is approximately 43.87 acres. The proposed annexation area is located directly outside to the City's northeastern border in unincorporated Placer County, within the City's Sphere of Influence (SOI). The 2.15-acre parcel is included in the annexation area, but no development is proposed for this parcel as part of the Lincoln Meadows Project.

Detachment from the Western Placer Fire County Service Area (CSA) 28 Zone 76

The 43.87-acre project site is currently located within the Western Placer Fire CSA 28 Zone 76. Within the Western Placer Fire CSA, Placer County provides fire protection services to the project site and surrounding area through a contract with CAL FIRE. Annexation of the project site to the City of Lincoln would require Placer County LAFCo approval of the detachment of the project site from Western Placer Fire CSA 28 Zone 76, as the City of Lincoln Fire Department would provide fire protection services to the proposed project upon annexation.

3.6 REQUIRED PUBLIC APPROVALS

The proposed project requires approval of the following discretionary entitlements.

Lead Agency Approvals - City of Lincoln

- Annexation Resolution authorizing submittal of an annexation application to Placer County LAFCo;
- General Plan Amendment to redesignate the project site Low Density Residential and remove the site from the Village 2 planning area;
- Prezoning of the project site to Single-Family Residential (R-1) and Open Space; and
- Tentative Subdivision Map to subdivide the existing parcel into 144 single-family lots, two landscape lots, and two open space lots.

In addition, the project must undergo a design review as part of the project evaluation, in compliance with the Zoning Ordinance. A Development Agreement may also be sought for

purposes of vesting entitlements and establishing specific obligations and commitments by both the City and the applicant.

Responsible Agency³ Approvals – Placer County LAFCo

- Annexation of the entire 43.87-acre project site (comprised of APNs 021-231-018 and 021-250-001, the portion of Hungry Hollow Road fronting APN 021-250-001, and the portion of Virginiatown Road fronting APN 021-231-018) into the City of Lincoln; and
- Detachment of the project site from the Western Placer Fire County Service Area (CSA) 28 Zone 76 for fire protection services.

Other Agency Approvals and Permits

The proposed project is anticipated to require other agency approvals, as follows:

- US Army Corps of Engineers Section 404 permit;
- California Regional Water Quality Control Board 401 Water Quality Certification and National Pollutant Discharge Elimination System (NPDES) Permit; and
- Nevada Irrigation District permission for irrigation ditch re-alignment.

³ Per CEQA Guidelines Section 15381, a "Responsible Agency" means a public agency which proposes to carry out or approve a project, for which lead agency is preparing or has prepared an EIR. For the purposes of CEQA, the term "responsible agency" includes all public agencies other than the lead agency which have discretionary approval power over the project.

4. EXISTING ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION

4.0 INTRODUCTION TO THE ANALYSIS

INTRODUCTION TO THE ANALYSIS

4.0.1 INTRODUCTION

The environmental assessment of the Lincoln Meadows project (proposed project) is included in Chapters 4.1 through 4.10 of this EIR. Each technical chapter analyzes the potential impacts of the proposed project on a range of environmental issue areas in the vicinity of the project as they exist at the time when the Notice of Preparation (NOP) is published. The "environmental setting" would normally constitute the "baseline condition" against which project-related impacts are compared. Therefore, the baseline conditions for this EIR are based on conditions that existed in July 2016 when the NOP was published, unless noted otherwise. The format of each of the chapters is described below.

4.0.2 DETERMINATION OF SIGNIFICANCE

Under CEQA, a significant effect is defined as a substantial or potentially substantial adverse physical change in the environment (Public Resources Code § 21068; CEQA Guidelines § 15382). The Guidelines implementing CEQA direct that this determination be based on scientific and factual data to the extent possible. The specific criteria for determining the significance of a particular impact are identified within the impact discussion in each chapter, and are consistent with significance criteria set forth in Appendix G of the CEQA Guidelines.

4.0.3 Environmental Issues Addressed in this Draft EIR

The EIR provides the analysis necessary to address the technical environmental impacts of the proposed project. The following environmental issues are addressed in this EIR:

- Aesthetics;
- Air Quality and Greenhouse Gas Emissions;
- Biological Resources;
- Cultural Resources;
- Soils, Geology, and Seismicity;
- Hydrology and Water Quality;
- Land Use and Planning / Agricultural Resources;
- Noise;
- Public Services and Utilities; and
- Transportation and Circulation.

4.0.4 TECHNICAL CHAPTER FORMAT

Each technical chapter addressing a specific environmental issue begins with an **introduction** describing the purpose of the section. The introduction is followed by a description of the project's **existing environmental setting** as the setting pertains to that particular issue. The setting description is followed by the **regulatory context** and the **impacts and mitigation measures** discussion, which contains the **standards of significance**, followed by the **method of analysis**. The **impact and mitigation** discussion includes impact statements prefaced by a number in boldfaced type (for both project-level and cumulative analyses). An explanation of each impact and an analysis of the impact's significance follow each impact statement. All mitigation measures pertinent to each individual impact follow directly after the impact statement (see below). The degree of relief provided by identified mitigation measures is also evaluated. An example of the format is shown below:

4.x-1 Statement of Impact

Discussion of impact for the proposed project in paragraph format.

Conclusion

Statement of *level of significance* of impact prior to implementation of mitigation is included at the end of each impact discussion. The following levels of significance are used in the EIR: less than significant, significant, or significant and unavoidable. If an impact is determined to be significant, mitigation will be included in order to reduce the specific impact to the maximum extent feasible.

Mitigation Measure(s)

Statement of *level of significance* of impact with implementation of mitigation is included immediately preceding the mitigation measure(s).

4.x-1(a) Required mitigation measure(s) presented in italics and listed in consecutive order.

 $4.x-l(b) \qquad etc., etc.$

4.1 AESTHETICS

AESTHETICS

4.1.1 INTRODUCTION

The Aesthetics chapter of the EIR describes existing visual and aesthetic resources for the Lincoln Meadows Project (proposed project) area and the region, and evaluates the potential aesthetic impacts of the project. The California Environmental Quality Act (CEQA) describes the concept of aesthetic resources in terms of scenic vistas, scenic resources (such as trees, rock outcroppings, and historic buildings within a State scenic highway), the existing visual character or quality of the project area, and light and glare impacts. The following impact analysis is based on information drawn from the *City of Lincoln General Plan*¹ and associated EIR,² as well as a site evaluation performed by Raney Planning and Management, Inc.

4.1.2 EXISTING ENVIRONMENTAL SETTING

The following setting information provides an overview of the existing conditions of visual resources in the proposed project area, which is located immediately northeast of the City of Lincoln in an unincorporated area of Placer County. The site consists of a total of 43.87 acres, of which, 40 acres are planned for residential development and open-space preservation. The proposed project site includes portions of Virginiatown Road and Hungry Hollow Road immediately fronting the 40-acre tentative map site to the south and east.

Visual Character of the Region

The City of Lincoln is located in Placer County on the eastern edge of the Sacramento Valley floor at the base of the Sierra Nevada foothills. The Sierra Nevada mountain range is visible from many locations throughout the City and provides a visual backdrop to the east of the City. The Coast Ranges, as well as the Sutter Buttes, are also visible at select locations throughout the City. The terrain of the project region is generally characterized by flat agricultural lands with some areas of dense tree canopy. Numerous riparian corridors pass through the City, including Auburn Ravine, Markham Ravine, and Secret Ravine.

Visual Character of the Project Site and Surrounding Area

The following information provides an overview of the existing conditions of the project site and surrounding area related to visual resources.

¹ City of Lincoln. 2050 General Plan. Updated March 2008.

² City of Lincoln. General Plan Update Final Environmental Impact Report. February 2008.

Project Site

The combined 40-acre tentative map site and 2.15-acre linear parcel are natural-appearing and semi-rural in the context of surrounding land uses. Grassland, Mima mounds,³ and vernal pools and seasonal wetlands on slightly rolling terrain contribute to the natural appearance of the site. The site lacks urban components, and though rural in appearance, scenic resources, such as rock outcroppings and historic buildings are lacking. Trees are largely absent from the site, other than the notable, large valley oak tree along Virginiatown Road, which possesses scenic value.

An existing Nevada Irrigation District (NID) canal, referred to as the "Lincoln Canal," bisects the site from east to west. A dirt service road parallels the canal through the project site. The portion of the Lincoln Canal that traverses through the site ranges between five and seven feet in width and has an average depth of 18 inches. The Lincoln Canal and the associated dirt service road are visually consistent with the rural character of the site. Because the canal only intermittently contains water and generally lacks associated vegetation along its banks, the canal possesses limited scenic value. Remnants of an earthen dam, possibly used to contain water for historic agricultural uses in the project area, are present along the eastern property boundary.

The 1.2-acre portion of Hungry Hollow Road that is part of the proposed project site includes the existing two-lane roadway and adjoining unpaved shoulders. Similarly, the Virginiatown Road portion of the project site includes the northern portion of the existing two-lane roadway and adjoining unpaved shoulder. Sidewalks or bicycle lanes are not provided along the aforementioned portions of Hungry Hollow Road or Virginiatown Road. With respect to visual character and quality, both roads are typical of other similarly-sized rural roads in the region and lack distinctive visual components.

Surrounding Area

The western edge of the project site is bordered by a 40-foot-wide NID easement and a 42-footwide irrevocable offer of dedication for a potential future roadway, then a 7-foot-high masonry block wall, after which is the Lincoln Highlands single-family residential subdivision. The decommissioned City of Lincoln landfill (closed in 1976) and undeveloped lands surrounding Auburn Ravine are located to the south of the site, across Virginiatown Road. Although the land to the south of Virginiatown Road is undeveloped, much of the land is included in the Village 1 Specific Plan, and is anticipated to be developed for residential uses in the future. The eastern edge is bordered by undeveloped lands containing scattered rural residential uses, and grassland and oak woodland habitats. The northern edge adjoins undeveloped and unincorporated land similar to the proposed project site. Carlin C. Coppin Elementary School is located approximately one mile west of the site, along Virginiatown Road. In addition, a new church (Church of Jesus Christ of Latter-day Saints) is located along Virginiatown Road, approximately 0.25-mile west of the site.

³ Mima mounds are roughly circular soil mounds found in grassland habitats, and vernal pools are often associated with these features.

Viewer Types

Distinguishing between public and private views is important, because private views are views seen from privately-owned land and are typically associated with individual viewers, including views from private residences. Public views are experienced by the collective public, and include views of significant landscape features and along scenic roads.

Viewer types with views of the project site include motorists, pedestrians, bicyclists, and residents, which are discussed in further detail below.

<u>Motorists</u> along Virginiatown Road and Hungry Hollow Road have existing views of the project site as they drive past the site. Views for passing motorists would be relatively brief, as the speed limit in the area is 45 miles per hour.

<u>Pedestrians and bicyclists</u> in the area would include nearby residents and visitors that use the public roadways to walk or bike to their destination. Such pedestrians and bicyclists would have views of the project site from Virginiatown Road and Hungry Hollow Road. In general, views experienced by pedestrians and bicyclists would be similar to those experienced by motorists. However, because sidewalks are not provided along either roadway, the amount of pedestrian traffic along the roadways is limited.

<u>*Residents*</u> of the Lincoln Highlands subdivision, as well as residents of the single-family homes located immediately east of the site, have permanent views of the site.

Determination of Key Viewpoints

Figure 4.1-1 provides an overview of the key publicly accessible viewpoint locations from which photographs were taken in and around the proposed project site, as well as the location of existing residences in the project vicinity. The photographs are presented in Figure 4.1-2 through Figure 4.1-9. The existing visual quality of the site from the key viewpoints is discussed below.

Viewpoint 1

As shown in Figure 4.1-2, the existing view from Viewpoint 1 provides long-distance views towards the west. Views from Viewpoint 1 include barbed wire fencing, the undeveloped project site, the existing Lincoln Highlands subdivision, landscaping vegetation associated with existing developments within the City, and distant views of the Coast Ranges and the Sutter Buttes.

Viewpoint 2

Existing views from Viewpoint 2 are shown in Figure 4.1-3. Views from Viewpoint 2 are similar to the views from Viewpoint 1; Viewpoint 2 offers views of the project site, the Lincoln Highlands development and other residential development, landscaping related vegetation, and distant views of the Coast Ranges and the Sutter Buttes.

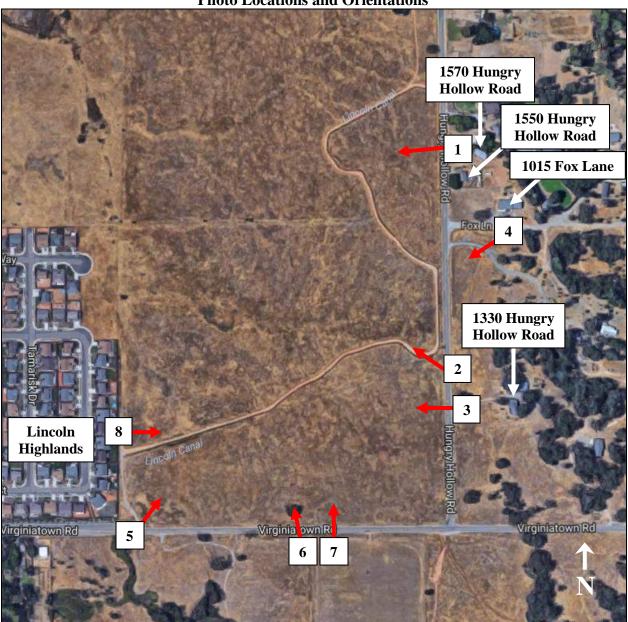
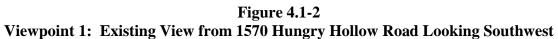


Figure 4.1-1 Photo Locations and Orientations

- 1: Existing View from 1570 Hungry Hollow Road Looking Southwest (see Figure 4.1-2)
- 2: Existing View from Hungry Hollow Road Looking Northwest (see Figure 4.1-3)
- 3: Existing View from 1330 Hungry Hollow Road Looking West (see Figure 4.1-4)
- 4: Existing View from 1015 Fox Lane Looking Southwest (see Figure 4.1-5)
- 5: Existing View from Southwest Site Boundary Looking Northeast (see Figure 4.1-6)
- 6: Existing View of On-Site Tree from Virginiatown Road Looking Northwest (see Figure 4.1-7)
- 7: Existing View from Virginiatown Road Looking North (see Figure 4.1-8)
- 8: Existing View of Project Site from Lincoln Highlands Subdivision (see Figure 4.1-9)





Chapter 4.1 - Aesthetics

Figure 4.1-3 Viewpoint 2: Existing View from Hungry Hollow Road Looking Northwest



Chapter 4.1 - Aesthetics

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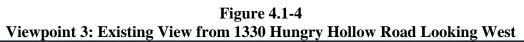






Figure 4.1-5 Viewpoint 4: Existing View from 1015 Fox Lane Looking Southwest

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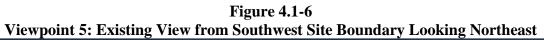




Figure 4.1-7 Viewpoint 6: Existing View of On-Site Tree from Virginiatown Road Looking Northwest



Figure 4.1-8 Viewpoint 7: Existing View from Virginiatown Road Looking North



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Viewpoint 3

As shown in Figure 4.1-4, Viewpoint 3 affords views across the project site from Hungry Hollow Road to the northwest. Views across the project site include barbed wire fencing, the project site, the Lincoln Highlands development, and landscaping vegetation associated with development within the City of Lincoln. Views of the Coast Ranges and Sutter Buttes are not available from Viewpoint 3, as the Lincoln Highlands development blocks such views.

Viewpoint 4

Figure 4.1-5 presents the view from Viewpoint 4. Viewpoint 4 looks across the project from Fox Lane towards the southwest. The view of the project site from Viewpoint 4 consists of overhead electrical power lines, the project site, the NID canal, the Lincoln Highlands development, and other developments within the City. Views of the distant Coast Ranges are available beyond the Lincoln Highlands development from Viewpoint 4.

Viewpoint 5

Viewpoint 5 offers views across the project site from the southwest corner of the site looking northwest. Figure 4.1-6 presents the view from Viewpoint 5. As shown in the figure, views from Viewpoint 5 include fencing, a utility box, views across the project site, rural residential developments to the east of the project site, vegetation, and distant views of foothills associated with the Sierra Nevada Mountains.

Viewpoint 6

As shown in Figure 4.1-7, Viewpoint 6 offers views of the existing large oak tree, the project site, the Lincoln Highlands development, and rural residential development to the north of the project site. The lot to the north of the project site is currently undeveloped, and the northern lot consists of similar grassland to that of the project site. Views across the project site and the lot to the north are enclosed by natural vegetation, and vegetation related to developments in the project area.

Viewpoint 7

Existing views from Viewpoint 7 are shown in Figure 4.1-8. Viewpoint 7 looks north from Virginiatown Road across the project site. The lot to the north of the project site is undeveloped grassland, similar to the project site. Therefore, the available view from Viewpoint 7 includes undeveloped grasslands enclosed by natural vegetation, and vegetation associated with surrounding rural residences.

Viewpoint 8

Figure 4.1-9 presents the view from Viewpoint 8. Viewpoint 8 looks eastward, across the project, from near the Lincoln Highlands development. Views from Viewpoint 8 are dominated by the undeveloped project site with vegetation, and distant views of foothills associated with the Sierra

Nevada. Furthermore, Viewpoint 8 affords views of vegetation surrounding the project site, vegetation includes vegetation associated with the rural residential developments to the east of the project site, as well as vegetation associated with Auburn Ravine.

Scenic Highways

According to the California Department of Transportation (Caltrans) map of designated and eligible scenic routes under the California Scenic Highway Program, there are no officially-designated State scenic highways located in the vicinity of the project site or in Placer County.

Light Pollution and Glare

Light pollution refers to all forms of unwanted light in the night sky, including glare, light trespass, sky glow, and over-lighting. Views of the night sky could be an important part of the natural environment, particularly in communities surrounded by extensive open space, such as the nearby areas to the north, east, and south of the project site. Excessive light and glare could also be visually disruptive to humans and nocturnal animal species.

Electric lighting also increases night sky brightness and is the human-made source of sky glow. Light that is either emitted directly upward by luminaires or reflected from the ground is scattered by dust and gas molecules in the atmosphere, producing a luminous background, which has the effect of reducing one's ability to view the stars.

Existing sources of light and glare in the project area are primarily associated with the Lincoln Highlands single-family residential subdivision located to the west of the project site, as well as vehicles traveling along adjacent roadways. Because the project site is undeveloped, sources of light and glare do not currently exist on the site.

4.1.3 REGULATORY CONTEXT

There are no federal or state laws or regulations pertaining to the visual quality of the project site and its surroundings.

Local Regulations

City of Lincoln General Plan

Chapter 6, General Plan Policy Consistency, identifies adopted General Plan policies that are relevant to the evaluation of aesthetics and an evaluation of consistency with those policies. No inconsistencies with the General Plan policies are identified. However, while City staff has done its best to ascertain consistency, the Lincoln City Council makes the ultimate decision regarding consistency with the General Plan.

4.1.4 IMPACTS AND MITIGATION MEASURES

This section describes the standards of significance and methodology utilized to analyze and determine the proposed project's potential impacts related to visual and aesthetic resources.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, the City's General Plan, and professional judgment, a significant impact would occur if the proposed project would result in the following:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Issues Not Discussed Further

As discussed above, officially designated State scenic highways do not exist within the County. Accordingly, the Initial Study prepared for the proposed project (see Appendix C) determined that development of the proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway, and no impact would occur. Accordingly, impacts related to state scenic highways are not further analyzed or discussed in this EIR chapter.

Method of Analysis

The analysis of impacts gives full consideration to the development of the project site and acknowledges the physical changes to the existing setting. Impacts to the existing environment of the project site are to be determined by the contrast between the site's visual setting before and after buildout of the proposed project. Although few standards exist to singularly define the various individual perceptions of aesthetic value from person to person, the degree of visual change can be measured and described in a reasonably objective manner in terms of visibility and visual contrast, dominance, and magnitude. The public views of the project site associated with motorists and pedestrians along Virginiatown Road and Hungry Hollow Road would be considered sensitive to the visual and aesthetic alteration of the project site. The standards of significance listed above have been used to delineate the significance of any visual or aesthetic alterations of the site.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts related to visual and aesthetic resources is based on implementation of the proposed project in comparison to existing conditions and the standards of significance presented above.

4.1-1 Substantial adverse effect on a scenic vista. Based on the analysis below, the impact is *less than significant*.

A scenic vista, as defined in this EIR, is an area that is designated, signed, and accessible to the public for the express purpose of viewing and sightseeing. A scenic vista includes any such areas designated by a federal, State, or local agency. Federal and State agencies have not designated any such locations within the City of Lincoln or Placer County for viewing and sightseeing. Similarly, according to the Placer County General Plan, the City's General Plan planning area does not have any officially designated scenic highways, corridors, vistas, or viewing areas. The City of Lincoln General Plan does mention that a scenic corridor exists along Highway 193. However, the project site is located approximately one mile north of Highway 193, and is separated from the highway by existing topography and vegetation, including oak woodlands. Accordingly, the project site is not visible from Highway 193.

Given that established scenic vistas are not located on or adjacent to the proposed project site, the proposed project would have a *less-than-significant* impact related to scenic vistas.

Mitigation Measure(s) None required.

4.1-2 Substantially degrade the existing visual character or quality of the project site and/or the site's surroundings. Based on the analysis below, the impact is *less than significant*.

The proposed project site has historically been used as a small water reservoir and as a grazing pasture. The site currently consists of annual grasses, a perimeter of barbed-wired fencing, approximately 1.39 acres of wetlands and other waters of the U.S., a portion of the NID "Lincoln Canal," one prominent valley oak tree near the southern border of the site, several smaller trees scattered throughout the project site, and portions of Virginiatown and Hungry Hollow Roads. The proposed project would include the subdivision and development of 144 one- and two-story single-family homes, two landscape lots, a 0.28-acre wetland open space lot and a 7.67-acre wetland open space lot with two stormwater detention basins. Accordingly, development of the proposed project would modify the existing visual character of the site from being rural in appearance to urban, as further described below.

Anticipated Changes to Visual Character and Quality

The effect of the proposed project on each of the key viewpoints shown in Figure 4.1-2 through Figure 4.1-9 is described in detail below.

• Viewpoint 1: Existing View from 1570 Hungry Hollow Road Looking Southwest (see Figure 4.1-2)

- Viewpoint 2: Existing View from Hungry Hollow Road Looking Northwest (see Figure 4.1-3)
- Viewpoint 3: Existing View from 1330 Hungry Hollow Road Looking West (see Figure 4.1-4)
- Viewpoint 4: Existing View from 1015 Fox Lane Looking Southwest (see Figure 4.1-5)
- Viewpoint 5: Existing View from Southwest Site Boundary Looking Northeast (see Figure 4.1-6)
- Viewpoint 6: Existing View of On-Site Oak Tree from Virginiatown Road Looking Northwest (see Figure 4.1-7)
- Viewpoint 7: Existing View from Virginiatown Road Looking North (see Figure 4.1-8)
- Viewpoint 8: Existing View of Project Site from Lincoln Highlands Subdivision (see Figure 4.1-9)

Views from the Residences to the East of the Project Site

Development of the proposed project would change the rural open setting of the project site as viewed by residents of 1570 and 1330 Hungry Hollow Road and 1015 Fox Lane. The distant views of the Coast Ranges afforded to residents of 1570 Hungry Hollow Road are anticipated to be partially obscured by proposed single-family residences. However, as shown in Figure 4.1-2 and Figure 4.1-3, such views are currently limited, and are only a small component of the overall viewshed experienced from both residences. Residents of 1015 Fox Lane do not currently possess views of the Coast Ranges (see Figure 4.1-4). The views of the existing agricultural lands to the north of the site are anticipated to be partially obscured for residents of 1330 Hungry Hollow Road and 1015 Fox Lane. However, views of such lands from 1570 Hungry Hollow Road would not be altered, as the residence is located to the north of the project site.

The proposed development would be visually congruous with the existing Lincoln Highlands subdivision, which currently serves as a backdrop for the project site, when the site is viewed from the east. Furthermore, the City has previously planned for buildout of the proposed project site with residential uses under the Village 2 designation, and, thus, changes to the visual character and quality of the site have been anticipated. In addition, the 2.15-acre linear parcel between the tentative map site and Hungry Hollow Road (APN 021-250-001) is not proposed for development at this time. Rather, the parcel is anticipated to accommodate future widening of Hungry Hollow Road. The widened cross-section would include an approximately 50-foot landscaped buffer along the west side of Hungry Hollow Road, and would separate the proposed project site from the existing rural residential developments to the east of the site. In addition to the 50-foot linear landscape buffer along Hungry Hollow Road, a smaller 0.28-acre open space lot would be included at the intersection of Hungry Hollow Road and Virginiatown Road. The small open space lot would continue to provide a limited view of grassland type landscape.

Therefore, while a noticeable change to the views currently afforded to the residents of the single-family homes east of the site would occur, the overall visual character and quality of the site would not be substantially degraded.

Views from the Lincoln Highlands Subdivision

Development of the proposed project would change the rural open setting of the project site as viewed by residents of the easternmost homes of the Lincoln Highlands subdivision. Views of the distant Sierra Nevada foothills are anticipated to be partially obscured as a result of the proposed development. However, residents may still be able to view the foothills from second-story windows due to the flat topography of the area. Views from the lower-stories of the existing residences within the Lincoln Highlands subdivision are currently obscured by the presence of a wall separating the Lincoln Highlands subdivision from the project site.

As noted above, development of the site with residential uses has been previously anticipated by the City. Furthermore, the proposed project would preserve 7.95 acres of the 43.87-acre site as open space, over two open space lots. The larger of the two lots would be located in between the proposed residences and the existing Lincoln Highlands subdivision. Therefore, a portion of the rural, undeveloped character of the landscape would be retained, and the views currently afforded to the residents of the Lincoln Highlands subdivision would not be substantially degraded.

Views from Virginiatown Road and Hungry Hollow Road

As shown in see Figure 4.1-3, and Figure 4.1-6 through Figure 4.1-8, the project site is clearly visible to motorists, pedestrians, and bicyclists traveling in either direction along both Virginiatown Road and Hungry Hollow Road.

Existing views from Hungry Hollow Road looking towards the project site generally include the undeveloped project site, Lincoln Highlands single-family residential subdivision to the west of the project site, as well as partially obscured long-range views of the Coast Ranges, and in more limited cases, portions of the Sutter Buttes (see Figure 4.1-3).

Close-range views of the site from Hungry Hollow Road would change from the existing grassy, rural terrain and the existing subdivision to the west to views of the proposed oneand two-story homes. Views of the distant Coast Ranges and Sutter Buttes from Hungry Hollow Road are anticipated to be obstructed; however, as discussed previously, such views are currently limited due to the intervening distance, topography, existing development, and existing vegetation. While the proposed project would alter views from Hungry Hollow Road, the project would be visually congruous with the general aesthetic character of the Lincoln Highlands subdivision. In addition, as discussed above, the 2.15acre linear parcel between the tentative map site and Hungry Hollow Road (APN 021-250-001) is not proposed for development at this time. Rather, the parcel is anticipated to accommodate future widening of Hungry Hollow Road. Thus, an approximately 50-foot buffer would be provided between Hungry Hollow Road and the proposed single-family residences.

Motorists, pedestrians, and bicyclists travelling on Virginiatown Road have direct views of the project site, partial views of the distant Sierra Nevada foothills to the east and uninterrupted views of the agricultural land directly north of the site. Development of the site with single-family units and the sound barrier along Virginiatown Road would obstruct views of the area to the north of the site, as well as the distant Sierra Nevada foothills to the east, and change the rural appearance of the site to one of urban character. However, the project improvements along Virginiatown Road would include landscape enhancements that would create a visual buffer between Virginiatown Road and the proposed single-family units. Specifically, the landscape buffer would include a sound wall, a six-foot planter, a 6.5-foot pedestrian easement, and a 20-foot landscape easement. Additionally, two open space lots would be visible from Virginiatown Road. The large 7.67-acre open space lot, and the smaller 0.28-acre open space lot, would preserve some of the existing undulating grassland character of the site. Therefore, motorists, pedestrians, and bicyclists along Virginiatown Road would continue to experience partial views of grassland and views of the residential development would be buffered by intervening landscaping.

A-7-foot-high sound barrier would be installed on the south side of residential lots along Virginiatown Road (see Impact 4.8-5 and Figure 4.8-3 in Section 4.8, Noise). However, the barrier would be discontinuous, and would not connect to the existing sound barrier at Lincoln Highlands. Thus, motorists, bicyclists, and pedestrians traveling along Virginiatown Road would have clear views of the proposed open space area. Another gap in the sound barrier would be at the entry road to the project. The gap would help diminish the visual scale of the sound barrier. The sound barrier would not extend north along Hungry Hollow Road, except for a small section at the southeast corner to shield one lot.

As such, the entirety of the project site would not be developed, and some of the existing open space views currently offered at the project site would be retained. Furthermore, it is important to note that motorist, pedestrian, and bicyclist views from the nearby roadways are not permanent views, but are only passing views. Accordingly, such viewers would not be expected to be significantly sensitive to changes in the visual character or quality of the project site, as views would only be temporary as they pass the site. Therefore, while a noticeable change to the views currently afforded to motorists, bicyclists, and pedestrians travelling on area roadways would occur, the overall visual character and quality of the site would not be substantially degraded for such viewers.

Design Review

Prior to issuance of building permits, the proposed project would be subject to City Design Review pursuant to Lincoln Municipal Code Section 18.67. The Design Review process would ensure that the proposed project is designed such that the general appearance of any improvements would preserve or enhance the physical environment and character of the community. The City would make recommendations accordingly on any matter requiring qualified aesthetic and/or architectural judgments. Thus, pursuant to the City's Design Review, the proposed project would be designed to be similar to the surrounding community in order to maintain the existing visual character and quality of the area.

Conclusion

Overall, the proposed project would change views of the site for motorists, pedestrians, bicyclists, and from residences located to the east and west of the project site. However, because the proposed project would be designed around the existing on-site vernal pool and wetland habitats, thereby preserving a total open space area of 7.95 acres, and because the proposed project would be subject to a Design Review by the City, which would ensure that the project incorporates sufficient landscaping, appropriate building design and colors, etc., the change in public and private views would not be considered a substantial degradation of the existing visual character or quality of the site or surrounding area. Therefore, impacts related such would be considered *less than significant*.

Mitigation Measure(s) None required.

4.1-3 Creation of new sources of substantial light or glare that would adversely affect day or nighttime views in the area. Based on the analysis below, and with implementation of mitigation, the impact is *less than significant*.

The project site is undeveloped and primarily characterized by natural habitats, such as vernal pools, wetland features, and annual grassland. Sources of light or glare do not currently occur on the project site. Development of the proposed 144 residential units would introduce sources of light and glare to a site where none currently exist. Night lighting associated with residential development would be visible to motorists, pedestrians, and bicyclists along Virginiatown Road and Hungry Hollow Road, as well as residents of the existing single-family homes east and west of the site.

Existing sources of light and glare in the area include street lighting along area roadways, and the adjacent residential development to the west of the project site. The proposed residential development would be similar to the existing residential development to the west. In addition, the proposed project would be required to be designed in compliance with the City's General Plan Policy LU-11.3, which requires that all outdoor light fixtures use low-energy, shielded light fixtures that direct light downward (i.e., lighting shall not emit higher than a horizontal level). Compliance with such would help to minimize lighting spillover from the project site into adjacent areas, including the residential properties east of the site, and would minimize the "sky glow" created by the project. Furthermore, the proposed project would be subject to Design Review by the City, pursuant to Lincoln Municipal Code Section 18.67. The Design Review process would ensure that the proposed project lighting is designed in accordance with all

applicable City standards and requirements, including General Plan Policy LU-11.3, Control of Light and Glare. The Design Review process would also ensure that the project does not include the use of any highly reflective materials or reflective glass in order to avoid the creation of substantial glare. Additionally, the proposed residential units would be separated from the Lincoln Highlands development by a 7.67-acre open space area, and from the rural residential uses to the east by a future landscape buffer area and Hungry Hollow Road. The separation of the project site from the nearby residences would further reduce the potential for light spillover. As such, the proposed project would not be expected to create new sources of substantial light or glare that would adversely affect day or nighttime views in the area.

However, because the types of lighting and the specific locations have not yet been finalized, the proposed project could result in a substantial increase in sources of light and glare that could affect public views in the area. Therefore, impacts related to the creation of new sources of substantial light or glare that would adversely affect day or nighttime views in the area could be *significant*.

<u>Mitigation Measure(s)</u>

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level by ensuring that the proposed project uses lighting certified by the International Dark-Sky Association, and that a lighting plan be prepared to demonstrate how light spill over from the proposed development would be prevented.

4.1-3 Prior to the issuance of building permits for any development on the project site, the project applicant shall submit a lighting plan for the project to the City of Lincoln Community Development Department for review and approval, demonstrating that proposed lighting is Dark-Sky compliant, as specified by the International Dark-Sky Association. The lighting plan shall specify design measures to ensure shielding of on-site lighting fixtures to direct the light downward (i.e., lighting shall not emit higher than a horizontal level) and prevent light spill onto adjacent properties.

Cumulative Impacts and Mitigation Measures

The following discussion of cumulative impacts is based on the implementation of the proposed project in combination with other proposed and pending projects in the region. Other proposed and pending projects in the region under the cumulative context would include buildout of the City's General Plan, as well as development of the most recent planned land uses within the vicinity of the project area. Refer to Chapter 5, Statutorily Required Sections, of this EIR for more detail.

Visual resources in the immediate vicinity of the project site have been affected by previous development of the Lincoln Highlands residential subdivision to the west. It is anticipated that additional urbanization would occur to the north of the project site within the Village 2 area, which would likely alter the visual character of the area. To the south, the land use plan for

approved Village 1 Specific Plan includes low-density residential bordering Virginiatown Road, which would result in a change from that area's undeveloped, rural appearance to that of urban development.

4.1-4 Long-term changes in visual character of the region associated with cumulative development of the proposed project in combination with future buildout in the City of Lincoln. Based on the analysis below, the project's incremental contribution to this significant cumulative impact is *less than cumulatively considerable*.

As development in one area changes from rural to urban, and such a pattern continues to occur throughout the undeveloped areas of a jurisdiction, the changes in visual character may become additive and cumulatively considerable. The City's General Plan Update EIR concluded that a significant cumulative impact related to aesthetics would occur from General Plan buildout and that, even with implementation of the General Plan policies and implementation measures, new development along the periphery of the existing City boundary would substantially degrade the existing visual character or quality of the area through the introduction of developed uses within areas currently used for open space or agricultural activities.⁴ However, according to CEQA Guidelines Section 15064, subdivision (h)(5), "[t]he mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable." Thus, it is not necessarily true that, even where cumulative impacts are significant, *any* level of incremental contribution must be deemed cumulatively considerable.

The project site is currently undeveloped and is primarily characterized by annual grasses, wetland areas, and a few scattered trees. The proposed project would include development of 144 one- and two-story single-family homes, which would result in a change to the existing visual character of the site from open space to urban uses. However, the proposed project would preserve 7.95 acres as open space associated with the on-site vernal pool and wetland habitats.

Public views of the project site are currently offered to motorists, pedestrians, and bicyclists along Virginiatown Road and Hungry Hollow Road, as well to residents in homes immediately east of Hungry Hollow Road. However, the current views do not extend beyond the project site toward any unique or distinctive scenic features, given the fact that located immediately west of the project site is an existing residential development. In addition, the project site is currently designated for urban development. Areas to the north are located within Village 2 of the General Plan, which is envisioned by the City to be a suburban village. Thus, in terms of the change to the visual character of the region, development on the project site would be typical of what is anticipated to occur in the surrounding area in terms of potential changes in the viewshed, and consistent with visual impacts analyzed in the General Plan Update EIR.

⁴ City of Lincoln. *General Plan Update Draft Environmental Impact Report* [pg. 11-6]. October 2006.

Although development of the proposed project in combination with cumulative development within the area due to buildout of the City's General Plan would continue to change the visual character and quality of the region, future development within the City would be required to comply with the City's General Plan, any applicable specific plan, any applicable development guidelines, and the City's Municipal Code, which govern allowable uses and development architecture and design. Compliance with such would help to ensure that cumulative impacts related to aesthetics are minimized through the location and design of future projects and consistency with what has been anticipated and previously analyzed by the City.

Overall, in terms of the change to the visual character of the region, development on the project site would be typical of what is anticipated to occur in the surrounding area and elsewhere in the City. Therefore, the project's incremental contribution to this significant cumulative impact would be considered *less than cumulatively considerable*.

Mitigation Measure(s) None required.

4.1-5 Cumulative impacts related to the creation of new sources of light or glare associated with development of the proposed project in combination with future buildout in the City of Lincoln. Based on the analysis below, the impact is *less than cumulatively considerable*.

Night sky lighting and overall changes in the visual environment as the result of increasing urbanization of large areas are considered the two types of aesthetic impacts that may be additive in nature, and, thus, cumulative. As development in one area increases, possibly expanding to connect with development in an adjoining urban area, the effect of night sky lighting experienced outside of the region may increase in the form of larger and/or more intense nighttime glow in the viewshed.

Cumulative effects of lighting are visible over a wide area, due to the potential for lighting from a number of projects to create sky glow. Development of the proposed project in combination with cumulative development within the area due to buildout of the City's General Plan would continue to introduce new sources of light and glare in the area. The City's General Plan EIR concluded that buildout of the General Plan would result in a significant cumulative impact related to substantial new sources of light and glare within areas currently used for a variety of open space or agricultural activities. However, for the reasons set forth below, the project's incremental contribution to this significant cumulative impact is not cumulatively considerable.

As described in Impact 4.1-3, the project would be required to submit a lighting plan for the project to the City Community Development Department for review and approval prior to the issuance of any building permit (see Mitigation Measure 4.1-3). Mitigation Measure 4.1-3 requires the project's lighting to be Dark-Sky compliant as specified by the International Dark-Sky Association. In addition, General Plan Policy LU-11.3 contains outdoor lighting standards which aim to prohibit unnecessary and unwarranted illumination of an adjacent residential property. The Policy requires that all outdoor light fixtures use low-energy, shielded light fixtures that direct light downward (i.e., lighting shall not emit higher than a horizontal level).

As part of the Design Review process, to which the proposed project is subject, the City will review the project's proposed lighting to ensure that it is consistent with General Plan Policy LU-11.3 and minimizes any adverse impacts of conflicting land uses.

Based on the above, the proposed project's incremental contribution to the cumulative impact of light and glare due to past, present and reasonably foreseeable development in the area would be *less than cumulatively considerable*.

Mitigation Measure(s) None required.

4.2 AIR QUALITY AND GREENHOUSE GAS EMISSIONS

4.2

AIR QUALITY AND GREENHOUSE GAS EMISSIONS

4.2.1 INTRODUCTION

The Air Quality and Greenhouse Gas Emissions chapter of the EIR describes the potential impacts of the Lincoln Meadows Project (proposed project) on local and regional air quality. The chapter describes the existing air quality and greenhouse gas (GHG) setting, construction-related air quality impacts resulting from grading and equipment emissions, direct and indirect emissions associated with the proposed project, the impacts of these emissions on both the local and regional scale, and mitigation measures warranted to reduce or eliminate any identified significant impacts. This chapter is primarily based on the *City of Lincoln General Plan*,¹ and associated *EIR*,² the Placer County Air Pollution Control District (PCAPCD)'s *CEQA Air Quality Handbook*,³ and the PCAPCD's *Review of Land Use Project's Under CEQA*,⁴ and the technical analysis performed by Raney Planning and Management, Inc.

4.2.2 EXISTING ENVIRONMENTAL SETTING

The following setting information provides an overview of the existing air quality setting in the proposed project area. In this section, the climate and topography of the region, ambient air quality standards (AAQS), attainment status for Placer County, current air quality, sources of odors, sensitive receptors in the vicinity of the proposed project, and GHG emissions are discussed.

Air Basin Characteristics

The proposed project site is located in western Placer County, which falls within the Sacramento Valley Air Basin (SVAB), and is within the jurisdictional boundaries of the PCAPCD. Air flows into the SVAB through the Carquinez Strait, moves across the Delta and carries pollutants from the heavily populated San Francisco Bay Area into the SVAB. The climate is characterized by hot, dry summers and cool, rainy winters. Characteristic of SVAB winter weather are periods of dense and persistent low-level fog, which are most prevalent between storms. From May to October, the region's intense heat and sunlight lead to high ozone concentrations. Prevailing winds are from the south and southwest, and as a result of prevailing winds coming generally from south to southwest, air quality in the area is heavily influenced by mobile and stationary sources of air pollution located upwind in the Sacramento Metropolitan Area.

¹ City of Lincoln. *City of Lincoln General Plan*. March 2008.

² City of Lincoln. City of Lincoln General Plan Final Environmental Impact Report, Volume I. February 2008.

³ Placer County Air Pollution Control District. *CEQA Air Quality Handbook*. October 11, 2012.

⁴ Placer County Air Pollution Control District. Placer County Air Pollution Control District Policy. Review of Land Use Projects Under CEQA. October 13, 2016.

Most precipitation in the SVAB results from air masses moving in from the Pacific Ocean during the winter months. Storms usually move through the area from the west or northwest. During the winter rainy season (November through February) over half the total annual precipitation falls while the average winter temperature is a moderate 49 degrees Fahrenheit. During the summer, daytime temperatures can exceed 100 degrees Fahrenheit. Dense fog occurs mostly in mid-winter and rarely in the summer. Daytime temperatures from April through October average between 60 and 80 degrees Fahrenheit with low humidity. The inland location and surrounding mountains shelter the valley from much of the ocean breeze that keeps the coastal regions moderate in temperature. The only breech in the mountain barrier is the Carquinez Strait, which exposes the midsection of the valley to the coastal air mass.

Air quality in Placer County is also affected by inversion layers, which occur when a layer of warm air traps a layer of cold air, preventing vertical dispersion of air contaminants. The presence of an inversion layer results in higher concentrations of pollutants near ground level. Summer inversions are strong and frequent, but are less troublesome than those that occur in the fall. Autumn inversions, formed by warm air subsiding in a region of high pressure, have accompanying light winds that do not provide adequate dispersion of air pollutants.

Air quality in the project vicinity is influenced by both local and distant emission sources. Air pollutant sources in the project vicinity include emissions from vehicle traffic on State Route (SR) 193 and other nearby roadways. Other, more distant, mobile air pollutant sources in the area include vehicle traffic on Interstate 80 (I-80) and SR 65. Additional sources of emissions include stationary and area sources associated with commercial and industrial land uses.

Ambient Air Quality Standards

Both the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. The federal standards are divided into primary standards, which are designed to protect the public health, and secondary standards, which are designed to protect the public welfare. The ambient air quality standards for each contaminant represent safe levels that avoid specific adverse health effects. Pollutants for which air quality standards have been established are called "criteria" pollutants. Table 4.2-1 identifies the major pollutants, characteristics, health effects and typical sources. The federal and California ambient air quality standards (NAAQS and CAAQS, respectively) are summarized in Table 4.2-2. The NAAQS and CAAQS were developed independently with differing purposes and methods. As a result, the federal and State standards differ in some cases. In general, the State of California standards are more stringent, particularly for ozone and particulate matter (PM), than the federal standards.

Table 4.2-1 Summary of Criteria Pollutants			
Pollutant	Characteristics	Health Effects	Major Sources
Ozone	A highly reactive gas produced by the photochemical process involving a chemical reaction between the sun's energy and other pollutant emissions. Often called photochemical smog.	 Eye irritation Wheezing, chest pain, dry throat, headache, or nausea Aggravated respiratory disease such as emphysema, bronchitis, and asthma 	Combustion sources such as factories, automobiles, and evaporation of solvents and fuels.
Carbon Monoxide	An odorless, colorless, highly toxic gas that is formed by the incomplete combustion of fuels.	 Impairment of oxygen transport in the bloodstream Impaired vision, reduced alertness, chest pain, and headaches Can be fatal in the case of very high concentrations 	Automobile exhaust, combustion of fuels, and combustion of wood in woodstoves and fireplaces.
Nitrogen Dioxide	A reddish-brown gas that discolors the air and is formed during combustion of fossil fuels under high temperature and pressure.	 Lung irrigation and damage Increased risk of acute and chronic respiratory disease 	Automobile and diesel truck exhaust, industrial processes, and fossil-fueled power plants.
Sulfur Dioxide	A colorless, irritating gas with a rotten egg odor formed by combustion of sulfur-containing fossil fuels.	 Aggravation of chronic obstruction lung disease Increased risk of acute and chronic respiratory disease 	Diesel vehicle exhaust, oil-powered power plants, and industrial processes.
Particulate Matter (PM ₁₀ and PM _{2.5})	A complex mixture of extremely small particles and liquid droplets that can easily pass through the throat and nose and enter the lungs.	 Aggravation of chronic respiratory disease Heart and lung disease Coughing Bronchitis Chronic respiratory disease in children Irregular heartbeat Nonfatal heart attacks 	Combustion sources such as automobiles, power generation, industrial processes, and wood burning. Also from unpaved roads, farming activities, and fugitive windblown dust.
Lead	A metal found naturally in the environment as well as in manufactured products.	 Loss of appetite, weakness, apathy, and miscarriage Lesions of the neuromuscular system, circulatory system, brain, and gastrointestinal tract 	Industrial sources and combustion of leaded aviation gasoline.

• California Air Resources Board. California Ambient Air Quality Standards (CAAQS). Available at: http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm. Accessed August 2016.

• Sacramento Metropolitan, El Dorado, Feather River, Placer, and Yolo-Solano Air Districts, Spare the Air website. Air Quality Information for the Sacramento Region. Available at: http://www.sparetheair.com/health.cfm?page=healthoverall. Accessed August 2016.

• California Air Resources Board. Glossary of Air Pollution Terms. Available at: http://www.arb.ca.gov/html/gloss.htm. Accessed August 2016.

Table 4.2-2					
Ambient Air Quality Standards					
			NAAQS		
Pollutant	Averaging Time	CAAQS	Primary	Secondary	
Ozone	1 Hour	0.09 ppm	-	Same as primary	
Ozone	8 Hour	0.070 ppm	0.070 ppm	Same as primary	
Carbon Monoxide	8 Hour	9 ppm	9 ppm		
Cal boll Wiolloxide	1 Hour	20 ppm	35 ppm	-	
Nitrogon Diovido	Annual Mean	0.030 ppm	53 ppb	Same as primary	
Nitrogen Dioxide	1 Hour	0.18 ppm	100 ppb	-	
	24 Hour	0.04 ppm	-	-	
Sulfur Dioxide	3 Hour	-	-	0.5 ppm	
	1 Hour	0.25 ppm	75 ppb	-	
Respirable	Annual Mean	20 ug/m ³	-		
Particulate Matter (PM ₁₀)	24 Hour	50 ug/m ³	150 ug/m ³	Same as primary	
Fine Particulate	Annual Mean	12 ug/m ³	12 ug/m ³	15 ug/m ³	
Matter (PM _{2.5})	24 Hour	-	35 ug/m^3	Same as primary	
Lead	30 Day Average	1.5 ug/m^3	-	-	
Leau	Calendar Quarter	-	1.5 ug/m^3	Same as primary	
Sulfates	24 Hour	25 ug/m ³	-	-	
Hydrogen Sulfide	1 Hour	0.03 ppm	-	-	
Vinyl Chloride	24 Hour	0.010 ppm	-	-	
Visibility Reducing Particles ¹	8 Hour	see note below	-	-	
ppm = parts per million					

ppm = parts per million

ppb = parts per billion

 $\mu g/m^3 =$ micrograms per cubic meter

1. Statewide Visibility Reducing Particle Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Source: California Air Resources Board. Ambient Air Quality Standards. May 4, 2016. Available at: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed August 2016.

A description of each criteria pollutant and its potential health effects is provided in the following section.

Ozone

Ozone is a reactive gas consisting of three oxygen atoms. In the troposphere, ozone is a product of the photochemical process involving the sun's energy, and is a secondary pollutant formed as a result of a complex chemical reaction between reactive organic gases (ROG) and oxides of nitrogen (NO_X) emissions in the presence of sunlight. As such, unlike other pollutants, ozone is not released directly into the atmosphere from any sources. In the stratosphere, ozone exists naturally and shields Earth from harmful incoming ultraviolet radiation. The primary source of

ozone precursors is mobile sources, including cars, trucks, buses, construction equipment, and agricultural equipment.

Ground-level ozone reaches the highest level during the afternoon and early evening hours. High levels occur most often during the summer months. Ground-level ozone is a strong irritant that could cause constriction of the airways, forcing the respiratory system to work harder in order to provide oxygen. Ozone at the Earth's surface causes numerous adverse health effects and is a major component of smog. High concentrations of ground-level ozone can adversely affect the human respiratory system and aggravate cardiovascular disease and many respiratory ailments.

Reactive Organic Gas

ROG is a reactive chemical gas composed of hydrocarbon compounds typically found in paints and solvents that contributes to the formation of smog and ozone by involvement in atmospheric chemical reactions. A separate health standard does not exist for ROG. However, some compounds that make up ROG are toxic, such as the carcinogen, benzene.

Oxides of Nitrogen

 NO_X are a family of gaseous nitrogen compounds and are precursors to the formation of ozone and particulate matter. The major component of NO_X , nitrogen dioxide (NO_2), is a reddish-brown gas that discolors the air and is toxic at high concentrations. NO_X results primarily from the combustion of fossil fuels under high temperature and pressure. On-road and off-road motor vehicles and fuel combustion are the major sources of NO_X . NO_X reacts with ROG to form smog, which could result in adverse impacts to human health, damage the environment, and cause poor visibility. Additionally, NO_X emissions are a major component of acid rain. Health effects related to NO_X include lung irritation, lung damage, and increased risk of acute and chronic respiratory disease.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless, poisonous gas produced by incomplete burning of carbon-based fuels such as gasoline, oil, and wood. When CO enters the body, the CO combines with chemicals in the body, which prevents blood from carrying oxygen to cells, tissues, and organs. Symptoms of exposure to CO can include problems with vision, reduced alertness, and general reduction in mental and physical functions. Exposure to CO can result in chest pain, headaches, reduced mental alertness, and death at high concentrations.

Sulfur Dioxide

Sulfur dioxide (SO₂) is a colorless, irritating gas with a rotten egg odor formed primarily by the combustion of sulfur-containing fossil fuels from mobile sources, such as locomotives, ships, and off-road diesel equipment. SO₂ is also emitted from several industrial processes, such as petroleum refining and metal processing. Similar to airborne NO_X, suspended sulfur dioxide particles contribute to poor visibility. The sulfur dioxide particles are also a component of PM₁₀.

Particulate Matter

Particulate matter, also known as particle pollution or PM, is a complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health impacts. The USEPA is concerned about particles that are 10 micrometers in diameter or smaller (PM_{10}) because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, the particles could affect the heart and lungs and cause serious health effects. USEPA groups particle pollution into three categories based on their size and where they are deposited:

- "Inhalable coarse particles (PM_{2.5-10})," which are found near roadways and dusty industries, are between 2.5 and 10 micrometers in diameter. PM_{2.5-10} is deposited in the thoracic region of the lungs.
- "Fine particles (PM_{2.5})," which are found in smoke and haze, are 2.5 micrometers in diameter and smaller. PM_{2.5} particles could be directly emitted from sources such as forest fires, or could form when gases emitted from power plants, industries, and automobiles react in the air. They penetrate deeply into the thoracic and alveolar regions of the lungs.
- "Ultrafine particles (UFP)," which are very, very small particles (less than 0.1 micrometers in diameter) largely resulting from the combustion of fossil fuels, meat, wood, and other hydrocarbons. While UFP mass is a small portion of PM_{2.5}, their high surface area, deep lung penetration, and transfer into the bloodstream could result in disproportionate health impacts relative to their mass. UFP is not currently regulated separately, but is analyzed as part of PM_{2.5}.

PM₁₀, PM_{2.5-10}, and UFP include primary pollutants (emitted directly to the atmosphere) as well as secondary pollutants (formed in the atmosphere by chemical reactions among precursors). Generally speaking, PM_{2.5} and UFP are emitted by combustion sources like vehicles, power generation, industrial processes, and wood burning, while PM₁₀ sources include the same sources plus roads and farming activities. Fugitive windblown dust and other area sources also represent a source of airborne dust. Long-term PM pollution, especially fine particles, could result in significant health problems including, but not limited to, the following: increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing; decreased lung function; aggravated asthma; development of chronic respiratory disease in children; development of chronic bronchitis or obstructive lung disease; irregular heartbeat; heart attacks; and increased blood pressure.

Lead

Lead is a relatively soft and chemically resistant metal that is a natural constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, and, thus, essentially persists forever. Lead forms compounds with both organic and inorganic substances. As an air pollutant, lead is present in small particles. Sources of lead emissions in California include a variety of industrial activities. Gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels. The use of leaded fuel has been mostly phased out,

with the result that ambient concentrations of lead have dropped dramatically. However, because lead was emitted in large amounts from vehicles when leaded gasoline was used, lead is present in many soils (especially urban soils) and could become re-suspended into the air.

Because lead is only slowly excreted by the human body, exposures to small amounts of lead from a variety of sources could accumulate to harmful levels. Effects from inhalation of lead near the level of the ambient air quality standard include impaired blood formation and nerve conduction. Lead can adversely affect the nervous, reproductive, digestive, immune, and blood-forming systems. Symptoms could include fatigue, anxiety, short-term memory loss, depression, weakness in the extremities, and learning disabilities in children. Lead also causes cancer.

Sulfates

Sulfates are the fully oxidized ionic form of sulfur and are colorless gases. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. The sulfur is oxidized to SO₂ during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO₂ to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features.

The sulfates standard established by CARB is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility, and, because they are usually acidic, can harm ecosystems and damage materials and property.

Hydrogen Sulfide

Hydrogen Sulfide (H_2S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. Hydrogen sulfide is extremely hazardous in high concentrations, especially in enclosed spaces (800 ppm can cause death).

Vinyl Chloride

Vinyl chloride (C₂H₃Cl, also known as VCM) is a colorless gas that does not occur naturally, but is formed when other substances such as trichloroethane, trichloroethylene, and tetrachloroethylene are broken down. Vinyl chloride is used to make polyvinyl chloride (PVC), which is used to make a variety of plastic products, including pipes, wire and cable coatings, and packaging materials.

Visibility Reducing Particles

Visibility reducing particles are a mixture of suspended particulate matter consisting of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. The standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are also a category of environmental concern. TACs are present in many types of emissions with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Car and truck exhaust contains at least 40 different TACs. In terms of health risks, the most volatile contaminants are diesel particulate matter (DPM), benzene, formaldehyde, 1,3-butadiene and acetaldehyde. Gasoline vapors contain several TACs, including benzene, toluene, and xylenes. Public exposure to TACs can result from emissions from normal operations as well as accidental releases.

Health risks from TACs are a function of both the concentration of emissions and the duration of exposure, which typically are associated with long-term exposure and the associated risk of contracting cancer. Health effects of exposure to TACs other than cancer include birth defects, neurological damage, and death. Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level. The identification, regulation, and monitoring of TACs is relatively new compared to that for criteria air pollutants that have established AAQS. TACs are regulated or evaluated on the basis of risk to human health rather than comparison to an AAQS or emission-based threshold.

Naturally Occurring Asbestos

Another concern related to air quality is naturally occurring asbestos (NOA). Asbestos is a term used for several types of naturally-occurring fibrous minerals found in many parts of California. The most common type of asbestos is chrysotile, but other types are also found in California. When rock containing asbestos is broken or crushed, asbestos fibers may be released and become airborne. Exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest and abdominal cavity), and asbestosis (a non-cancerous lung disease which causes scarring of the lungs). Because asbestos is a known carcinogen, NOA is considered a TAC. Sources of asbestos emissions include: unpaved roads or driveways surfaced with ultramafic rock; construction activities in ultramafic rock deposits; or rock quarrying activities where ultramafic rock is present.

NOA is typically associated with fault zones, and areas containing serpentinite or contacts between serpentinite and other types of rocks. According to the *Special Report 190: Relative Likelihood for the Presence of Naturally Occurring Asbestos in Placer County, California* prepared by the Department of Conservation, the project site is located within an area categorized as least likely to

contain NOA, because faults and serpentinite outcroppings are not known to be in the project area.⁵ Additionally, the Preliminary Geotechnical Engineering Investigation did not identify any known faults underlying the project site, nor did the investigation determine that serpentinite was present on the project site.⁶

Attainment Status and Regional Air Quality Plans

The Federal Clean Air Act (FCAA) and the California Clean Air Act (CCAA) require all areas of California to be classified as attainment, nonattainment, or unclassified as to their status with regard to the federal and/or State Ambient Air Quality Standards (AAQS). The FCAA and CCAA require that the CARB, based on air quality monitoring data, designate portions of the State where the federal or State AAQS are not met as "nonattainment areas." Because of the differences between the national and State standards, the designation of nonattainment areas is different under the federal and State legislation. The CCAA requires local air pollution control districts to prepare air quality attainment plans. These plans must provide for district-wide emission reductions of five percent per year averaged over consecutive three-year periods or, provide for adoption of "all feasible measures on an expeditious schedule."

As presented in Table 4.2-3, under the CCAA, Placer County has been designated nonattainment for the State one-hour ozone, State and federal eight-hour ozone, State PM_{10} , and federal 24-hour $PM_{2.5}$ standard. The County is designated attainment or unclassified for all other AAQS. Due to the nonattainment designations, the PCAPCD, along with the other air districts in the SVAB region, is required to develop plans to attain the federal and State standards for ozone and particulate matter. The air quality plans include emissions inventories to measure the sources of air pollutants, to evaluate how well different control measures have worked, and show how air pollution would be reduced. In addition, the plans include the estimated future levels of pollution to ensure that the area would meet air quality goals. Each of the attainment plans currently in effect are discussed in further detail in the Regulatory Context section of this chapter.

Local Air Quality Monitoring

Air quality is monitored by CARB at various locations to determine which air quality standards are being violated, and to direct emission reduction efforts, such as developing attainment plans, rules, incentive programs, etc. The nearest local air quality monitoring station to the project site is the Lincoln-1445 1st Street station, located at 1445 1st Street, in Lincoln, CA. The Lincoln-1445 1st Street station does not have data available for PM_{10} or nitrogen dioxide; thus, the nearest station with such data was used, which was the Roseville-N Sunrise Blvd station, located at 151 North Sunrise Boulevard in Roseville. Based on the data available for the nearest monitoring stations, Table 4.2-4 presents the number of days that the State and federal AAQS were exceeded for the three-year period from 2013 to 2015.

⁵ Department of Conservation, California Geological Survey. *Special Report 190: Relative Likelihood for the Presence of Naturally Occurring Asbestos in Placer County, California.* Published 2006.

⁶ CTE CAL, Inc. Preliminary Geotechnical Engineerng Investigation, Lincoln Meadows Subdivision, NWC Virginiatwon and Hungry Hollow Roads, Lincoln, California. February 27, 2015.

Table 4.2-3				
Placer County Attainment Status Designations				
Pollutant	Averaging Time	California Standards	Federal Standards	
Ozone	1 Hour	Nonattainment	Revoked in 2005	
Ozone	8 Hour	Nonattainment	Nonattainment	
Carbon Monoxide	8 Hour	Attainment	Attainment	
Carbon Wonoxide	1 Hour	Attainment	Attainment	
Nitrogon Diovido	Annual Mean	Attainment	Attainment	
Nitrogen Dioxide	1 Hour	Attainment	Attainment	
	Annual Mean	Attainment	-	
Sulfur Dioxide	24 Hour	Attainment	-	
Sulful Dioxide	3 Hour	Attainment	-	
	1 Hour	Attainment	-	
Respirable Particulate	Annual Mean	Nonattainment	-	
Matter (PM ₁₀)	24 Hour	Nonattainment	-	
Fine Particulate Matter	Annual Mean	Attainment	-	
(PM _{2.5})	24 Hour	Attainment	Nonattainment	
	30 Day Average	Attainment	Attainment	
Lead	Calendar Quarter	Attainment	Attainment	
Leau	Rolling 3-Month	Attainment	Attainment	
Sulfates	Average 24 Hour	Attainment		
Hydrogen Sulfide	1 Hour	-	_	
Visibility Reducing Particles	8 Hour	-	-	
Source: California Air Resources Board. Area Designations Maps / State and National. Published December 2015.				

Table 4.2-4 Air Quality Monitoring Data Summary for Project Area				
		Days Standard Was Exceeded		
Pollutant	Standard	2013	2014	2015
1-Hour Ozone ¹	State	0	1	2
	Federal	0	0	0
	State	2	4	5
8-Hour Ozone ¹	Federal	0	1	2
24-Hour $PM_{2.5}^{1}$	Federal	0	0	0
$24-Hour PM_{10}^2$	State	1	0	1
	Federal	0	0	0
1-Hour Nitrogen	State	0	0	0
Dioxide ²	Federal	0	0	0

¹ Data obtained from the Lincoln-1445 1st Street air quality monitoring station.

² Data obtained from the Roseville-N Sunrise Blvd air quality monitoring station.

Source: California Air Resources Board. Aerometric Data Analysis and Management (iADAM) System. Available at: http://www.arb.ca.gov/adam/welcome.html. Accessed August 2016.

Odors

While offensive odors rarely cause physical harm, they can be unpleasant, leading to considerable annoyance and distress among the public and can generate citizen complaints to local governments and air districts. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative or formulaic methodologies to determine the presence of a significant odor impact do not exist. Adverse effects of odors on residential areas and other sensitive receptors warrant the closest scrutiny; but consideration should also be given to other land use types where people congregate, such as recreational facilities, worksites, and commercial areas. The potential for an odor impact is dependent on a number of variables including the nature of the odor source, distance between a receptor and an odor source, and local meteorological conditions.

One of the most important factors influencing the potential for an odor impact to occur is the distance between the odor source and receptors, also referred to as a buffer zone or setback. The greater the distance between an odor source and receptor, the less concentrated the odor emission would be when reaching the receptor.

Meteorological conditions also affect the dispersion of odor emissions, which determines the exposure concentration of odiferous compounds at receptors. The predominant wind direction in an area influences which receptors are exposed to the odiferous compounds generated by a nearby source. Receptors located upwind from a large odor source may not be affected due to the produced odiferous compounds being dispersed away from the receptors. Wind speed also influences the degree to which odor emissions are dispersed away from any area.

Odiferous compounds could be generated from a variety of source types including both construction and operational activities. Examples of common land use types that typically generate significant odor impacts include, but are not limited to wastewater treatment plants; composting/green waste facilities; recycling facilities; petroleum refineries; chemical manufacturing plants; painting/coating operations; rendering plants; and food packaging plants. The proposed project does not include the construction or operation of any such land uses.

The closed Lincoln Landfill is on the south side of Virginiatown Road, south of the project site. Operation of the Lincoln Landfill ceased in 1988 and the landfill was capped in 1992.⁷ Closure activity included the overlay of all landfill material with sand, and compacted clay, before further overlay by a topsoil layer that was hydroseeded. Overlaying the landfill with compacted clay and soil has effectively contained odors beneath multiple layers of earth. While the landfill is closed and capped, any organic material present within the landfill could continue to decompose, leading to off-gassing of odiferous compounds and methane. However, the closure documents indicated that post-closure decomposition of organic matter in the landfill would be limited, because waste deposited in the landfill had been periodically burned throughout the operation of the landfill. Periodic burning of landfill waste reduced the amount of organic waste remaining in the landfill that could anaerobically decompose and produce odiferous compounds and methane. Because the

⁷ CTE CAL, Inc. Preliminary Geotechnical Engineerng Investigation, Lincoln Meadows Subdivision, NWC Virginiatwon and Hungry Hollow Roads, Lincoln, California. February 27, 2015.

decomposition of organic material would produce both odors and methane, the presence or absence of methane would indicate whether organic material was present and decomposing within the closed Lincoln Landfill. The assumption that operational burning reduced the amount of remaining organic material and post closure methane production has been corroborated by methane monitoring, which did not detect any methane emissions during the last site inspection.⁸ Since closure and capping of the Landfill, the City has not received formal complaints regarding odors related to the Lincoln Landfill.

Other odors that could be found to be objectionable include diesel fumes associated with substantial diesel-fueled equipment and heavy-duty trucks, such as from construction activities, freeway traffic, or distribution centers. The project site is located over a mile away from SR 193, and approximately three miles from SR 65.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, day care centers, playgrounds, and medical facilities. The project site is adjacent to the Lincoln Highlands single family residential subdivision to the west, and rural residences are located within approximately 320 feet east of the project site, opposite Hungry Hollow Road. For analysis purposes, the residences located east and west of the project site would be considered the closest sensitive receptors to the project site.

Greenhouse Gas Emissions

GHGs are gases that absorb and emit radiation within the thermal infrared range, trapping heat in the earth's atmosphere. Some GHGs occur naturally and are emitted into the atmosphere through both natural processes and human activities. Other GHGs are created and emitted solely through human activities. The principal GHGs that enter the atmosphere due to human activities are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated carbons. Other common GHGs include water vapor, ozone, and aerosols. Since the beginning of the Industrial Revolution, global atmospheric concentrations of GHGs have increased due to human activities such as the burning of fossil fuels, clearing of forests and other activities. The increase in atmospheric concentrations of GHG due to human activities has resulted in more heat being held within the atmosphere, which is the accepted explanation for global climate change.⁹

The primary GHG emitted by human activities is CO_2 , with the next largest components being CH_4 and N_2O . The primary sources of CH_4 emissions include domestic livestock sources,

⁸ California Department of Resources Recycling and Recovery. *Facility/Site Summary Details*. Accessible at http://www.calrecycle.ca.gov/SWFacilities/Directory/31-AA-0220/Inspection/405091/. Accessed on September 1, 2016.

⁹ U.S. Environmental Protection Agency. Climate Change Indicators: Atmospheric Concentrations of Greenhouse Gases. Available at: https://www.epa.gov/climate-indicators/climate-change-indicators-atmosphericconcentrations-greenhouse-gases. Accessed November 17, 2016.

decomposition of wastes in landfills, releases from natural gas systems, coal mine seepage, and manure management. The main human activities producing N₂O are agricultural soil management, fuel combustion in motor vehicles, nitric acid production, manure management, and stationary fuel combustion. Emissions of GHG by economic sector indicate that energy-related activities account for the majority of U.S. emissions. Electricity generation is the largest single-source of GHG emissions, and transportation is the second largest source, followed by industrial activities. The agricultural, commercial, and residential sectors account for the remainder of GHG emission sources.¹⁰ Emissions of GHG are partially offset by uptake of carbon and sequestration in forests, trees in urban areas, agricultural soils, landfilled yard trimmings and food scraps, and absorption of CO_2 by the earth's oceans; however, the rate of emissions of GHGs currently outpaces the rate of uptake, thus causing global atmospheric concentrations to increase.¹¹ Attainment concentration standards for GHGs have not been established by the federal or State government.

Global Warming Potential

Global Warming Potential (GWP) is one type of simplified index (based upon radiative properties) that can be used to estimate the potential future impacts of emissions of various gases. According to the USEPA, the global warming potential of a gas, or aerosol, to trap heat in the atmosphere is the "cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas." The reference gas for comparison is CO_2 . GWP is based on a number of factors, including the heat-absorbing ability of each gas relative to that of CO_2 , as well as the decay rate of each gas relative to that of CO_2 . Each gas's GWP is determined by comparing the radiative forcing associated with emissions of that gas versus the radiative forcing associated with emissions of the same mass of CO_2 , for which the GWP is set at one. Methane gas, for example, is estimated by the USEPA to have a comparative global warming potential 25 times greater than that of CO_2 , as shown in Table 4.2-5.

As shown in the table below, at the extreme end of the scale, sulfur hexafluoride is estimated to have a comparative GWP 22,800 times that of CO_2 . The "specified time horizon" is related to the atmospheric lifetimes of such GHGs, which are estimated by the USEPA to vary from 50 to 200 years for CO_2 , to 50,000 years for tetrafluoromethane. Longer atmospheric lifetimes allow GHG to buildup in the atmosphere; therefore, longer lifetimes correlate with the global warming potential of a gas. The common indicator for GHG is expressed in terms of metric tons of CO_2 equivalents (MTCO₂e).

¹⁰ U.S. Environmental Protection Agency. *Sources of Greenhouse Gas Emissions*. Available at: http://epa.gov/climatechange/ghgemissions/sources/industry.html. Accessed August 2016.

¹¹ U.S. Environmental Protection Agency. *Climate Change Indicators: Atmospheric Concentrations of Greenhouse Gases.* Available at: https://www.epa.gov/climate-indicators/climate-change-indicators-atmospheric-concentrations-greenhouse-gases. Accessed November 17, 2016.

Table 4.2-5 Global Warming Potentials and Atmospheric Lifetimes of Select GHGs			
Gas	Atmospheric Lifetime (years)	Global Warming Potential (100 year time horizon)	
Carbon Dioxide (CO ₂)	50-200 ¹	1	
Methane (CH ₄)	12	25	
Nitrous Oxide (N ₂ O)	114	298	
HFC-23	270	14,800	
HFC-134a	14	1,430	
HFC-152a	1.4	124	
PFC: Tetrafluoromethane (CF ₄)	50,000	7,390	
PFC: Hexafluoroethane (C_2F_6)	10,000	12,200	
Sulfur Hexafluoride (SF ₆)	3,200	22,800	

1. For a given amount of carbon dioxide emitted, some fraction of the atmospheric increase in concentration is quickly absorbed by the oceans and terrestrial vegetation, some fraction of the atmospheric increase will only slowly decrease over a number of years, and a small portion of the increase will remain for many centuries or more.

Source: USEPA. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013. April 15, 2015.

Effects of Global Climate Change

Uncertainties exist as to exactly what the climate changes will be in various local areas of the Earth. According to the Intergovernmental Panel on Climate Change's Working Group II Report, *Climate Change 2007: Impacts, Adaptation and Vulnerability*,¹² climate change impacts to North America may include:

- Diminishing snowpack;
- Increasing evaporation;
- Exacerbate shoreline erosion;
- Exacerbate inundation from sea level rising;
- Increased risk and frequency of wildfire;
- Increased risk of insect outbreaks;
- Increased experiences of heat waves; and
- Rearrangement of ecosystems as species and ecosystems shift northward and to higher elevations.

For California, climate change has the potential to cause/exacerbate the following environmental impacts:

• Increased frequency, duration, and intensity of conditions conducive to air pollution formation (particularly ozone);

¹² Intergovernmental Panel on Climate Change. *Climate Change 2007: Impacts, Adaptation, and Vulnerability.* 2007.

- Reduced precipitation, changes to precipitation and runoff patterns, reduced snowfall (precipitation occurring as rain instead of snow), earlier snowmelt, decreased snowpack, and increased agricultural demand for water;
- Increased growing season and increased growth rates of weeds, insect pests and pathogens;
- Inundation by sea level rise; and
- Increased incidents and severity of wildfire events and expansion of the range and increased frequency of pest outbreaks.

Many of the aforementioned effects of climate change could directly impact residents of Placer County. For instance, the combined effects of prolonged drought and increased insect and pathogen prevalence has manifested within the County as increased tree mortality rates. Increased tree mortality contributes to increased incidence and severity of wildfire events throughout the County, which presents a hazard to County residents.¹³ Additionally, changes in precipitation patterns present challenges for water resource management throughout the County, particularly in regards to dam management and the reliability of domestic and agricultural surface water supplies.¹⁴

4.2.3 REGULATORY CONTEXT

Air quality is monitored and regulated through the efforts of various international, federal, State, and local government agencies. Agencies work jointly and individually to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for regulating and improving the air quality within the project area are discussed below.

Federal Regulations

The most prominent federal regulation is the FCAA, which is implemented and enforced by the USEPA.

FCAA and USEPA

The FCAA requires the USEPA to set NAAQS and designate areas with air quality not meeting NAAQS as nonattainment. The USEPA is responsible for enforcement of NAAQS for atmospheric pollutants and regulates emission sources that are under the exclusive authority of the federal government including emissions of GHGs. The USEPA's air quality mandates are drawn primarily from the FCAA, which was signed into law in 1970. Congress substantially amended the FCAA in 1977 and again in 1990. The USEPA has adopted policies consistent with FCAA requirements demanding states to prepare SIP that demonstrate attainment and maintenance of the NAAQS.

The USEPA has been directed to develop regulations to address the GHG emissions of cars and trucks. The Mandatory Reporting of Greenhouse Gases Rule requires reporting of GHG emissions

¹³ County of Placer. *Placer County Tree Mortality Task Force*. Available at: https://www.placer.ca.gov/departments/ceo/emergency/tree-mortality. Accessed March 2017.

¹⁴ State of California, Natural Resources Agency. *Safeguarding California: Reducing Climate Risk.* July 2014.

from large sources and suppliers in the U.S., and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHG, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions are required to submit annual reports to the USEPA. To track the national trend in emissions and removals of GHG since 1990, USEPA develops the official U.S. GHG inventory each year.

On December 7, 2009, USEPA issued findings under Section 202(a) of the CAA concluding that GHGs are pollutants that could endanger public health. Under the so-called Endangerment Finding, USEPA found that the current and projected concentrations of the six key well-mixed GHGs – CO_2 , CH₄, N₂O, PFCs, SF₆, and HFCs – in the atmosphere threaten the public health and welfare of current and future generations. These findings do not, by themselves, impose any requirements on industry or other entities.

State Regulations

California has adopted a variety of regulations aimed at reducing air pollution and GHG emissions. California air quality- and GHG-related regulations and legislation that are relevant to the project are identified below; however, an exhaustive list and extensive details of California air quality regulations and legislation can be found at the CARB website (http://www.arb.ca.gov/html/lawsregs.htm).

State Regulations and Legislation Related to Air Quality

The following regulations and legislation address air quality within California.

CCAA and CARB

The CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the CCAA. The CCAA requires that air quality plans be prepared for areas of the State that have not met the CAAQS for ozone, CO, NO_X, and SO₂. Among other requirements of the CCAA, the plans must include a wide range of implementable control measures, which often include transportation control measures and performance standards. In order to implement the transportation-related provisions of the CCAA, local air pollution control districts have been granted explicit authority to adopt and implement transportation controls. The CARB, California's air quality management agency, regulates and oversees the activities of county air pollution control districts and regional air quality management districts. The CARB regulates local air quality indirectly using State standards and vehicle emission standards, by conducting research activities, and through planning and coordinating activities. In addition, the CARB has primary responsibility in California to develop and implement air pollution control plans designed to achieve and maintain the NAAQS established by the USEPA. Furthermore, the CARB is charged with developing rules and regulations to cap and reduce GHG emissions.

Air Quality and Land Use Handbook

CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB Handbook) addresses the importance of considering health risk issues when siting sensitive land uses, including residential development, in the vicinity of intensive air pollutant emission sources including freeways or high-traffic roads, distribution centers, ports, petroleum refineries, chrome plating operations, dry cleaners, and gasoline dispensing facilities.¹⁵ The CARB Handbook draws upon studies evaluating the health effects of traffic traveling on major interstate highways in metropolitan California centers within Los Angeles (I-405 and I-710), the San Francisco Bay, and San Diego areas. The recommendations identified by CARB, including siting residential uses a minimum distance of 500 feet from freeways or other high-traffic roadways, are consistent with those adopted by the State of California for location of new schools. Specifically, the CARB Handbook recommends, "Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day" (CARB 2005).

Importantly, the Introduction section of the CARB Handbook clarifies that the guidelines are strictly advisory, recognizing that: "[l]and use decisions are a local government responsibility. The Air Resources Board Handbook is advisory and these recommendations do not establish regulatory standards of any kind." CARB recognizes that there may be land use objectives as well as meteorological and other site-specific conditions that need to be considered by a governmental jurisdiction relative to the general recommended setbacks, specifically stating, "[t]hese recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues" (CARB 2005).

Assembly Bill 1807

Assembly Bill (AB) 1807, enacted in September 1983, sets forth a procedure for the identification and control of TACs in California. CARB is responsible for the identification and control of TACs, except pesticide use, which is regulated by the California Department of Pesticide Regulation.

AB 2588

The Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588), California Health and Safety Code Section 44300 et seq., provides for the regulation of over 200 TACs, including DPM, and is the primary air contaminant legislation in California. Under the act, local air districts may request that a facility account for its TAC emissions. Local air districts then prioritize facilities on the basis of emissions, and high priority designated facilities are required to submit a health risk assessment and communicate the results to the affected public.

¹⁵ California Air Resources Board. Air Quality and Land Use Handbook: A Community Health Perspective. April 2005.

Senate Bill 656

In 2003, the Legislature passed Senate Bill (SB) 656 to reduce public exposure to PM_{10} and $PM_{2.5}$ above the State CAAQS. The legislation requires the CARB, in consultation with local air pollution control and air quality management districts, to adopt a list of the most readily available, feasible, and cost-effective control measures that could be implemented by air districts to reduce PM_{10} and $PM_{2.5}$ emissions. The CARB list is based on California rules and regulations existing as of January 1, 2004, and was adopted by CARB in November 2004. Categories addressed by SB 656 include measures for reduction of emissions associated with residential wood combustion and outdoor greenwaste burning, fugitive dust sources such as paved and unpaved roads and construction, combustion sources such as boilers, heaters, and charbroiling, solvents and coatings, and product manufacturing. Some of the measures include, but are not limited to, the following:

- Reduce or eliminate wood-burning devices allowed;
- Prohibit residential open burning;
- Permit and provide performance standards for controlled burns;
- Require water or chemical stabilizers/dust suppressants during grading activities;
- Limit visible dust emissions beyond the project boundary during construction;
- Require paving/curbing of roadway shoulder areas; and
- Require street sweeping.

Under SB 656, each air district is required to prioritize the measures identified by CARB, based on the cost effectiveness of the measures and their effect on public health, air quality, and emission reductions. Per SB 656 requirements, the PCAPCD amended their Rule 225 related to wood-burning appliances to include conditions consistent with SB 656, including such conditions as the prohibition of the installation of any new, permanently installed, indoor or outdoor, uncontrolled wood-burning appliances.

Heavy-Duty Vehicle Idling Emission Reduction Program

On October 20, 2005, CARB approved a regulatory measure to reduce emissions of toxics and criteria pollutants by limiting idling of new and in-use sleeper berth equipped diesel trucks.¹⁶ The regulation consists of new engine and in-use truck requirements and emission performance requirements for technologies used as alternatives to idling the truck's main engine. For example, the regulation requires 2008 and newer model year heavy-duty diesel engines to be equipped with a non-programmable engine shutdown system that automatically shuts down the engine after five minutes of idling, or optionally meet a stringent NO_X emission standard. The regulation also requires operators of both in-state and out-of-state registered sleeper berth equipped trucks to manually shut down their engine when idling more than five minutes at any location within California beginning in 2008. Emission producing alternative technologies such as diesel-fueled auxiliary power systems and fuel-fired heaters are also required to meet emission performance requirements that ensure emissions are not exceeding the emissions of a truck engine operating at idle.

¹⁶ California Air Resources Board. Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. October 24, 2013. Available at: http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm. Accessed August 2016.

In-Use Off-Road Diesel Vehicle Regulation

On July 26, 2007, CARB adopted a regulation to reduce DPM and NO_X emissions from in-use (existing), off-road, heavy-duty diesel vehicles in California.¹⁷ Such vehicles are used in construction, mining, and industrial operations. The regulation is designed to reduce harmful emissions from vehicles by subjecting fleet owners to retrofit or accelerated replacement/repower requirements, imposing idling limitations on owners, operators, renters, or lessees of off-road diesel vehicles. The idling limits require operators of applicable off-road vehicles (self-propelled diesel-fueled vehicles 25 horsepower and up that were not designed to be driven on-road) to limit idling to less than five minutes. The idling requirements are specified in Title 13 of the California Code of Regulations.

State Regulations Related to Greenhouse Gases

The following regulations address GHG and climate change within California.

AB 1493

California AB 1493 (Stats. 2002, ch. 200) (Health & Safety Code, §§42823, 43018.5), known as Pavley I, was enacted on July 22, 2002. AB 1493 requires that the CARB develop and adopt regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by the CARB to be vehicles whose primary use is noncommercial personal transportation in the state." On June 30, 2009, the USEPA granted a waiver of CAA preemption to California for the State's GHG emission standards for motor vehicles, beginning with the 2009 model year. Pursuant to the CAA, the waiver allows for the State to have special authority to enact stricter air pollution standards for motor vehicles than the federal government's. On September 24, 2009, the CARB adopted amendments to the Pavley regulations (Pavley I) that reduce GHG emissions in new passenger vehicles from 2009 through 2016. The second phase of the Pavley regulations (Pavley II) is expected to affect model year vehicles from 2016 through 2020. The CARB estimates that the regulation would reduce GHG emissions from the light-duty passenger vehicle fleet by an estimated 18 percent in 2020 and by 27 percent in 2030.

Renewable Portfolio Standard (RPS)

Established in 2002 under SB 1078, accelerated in 2006 under SB 107, and expanded in 2011 under SB 2, California's Renewables Portfolio Standard (RPS) is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020. In 2015, SB 350 was signed into law by Governor Jerry Brown; SB 350 extended the State's RPS program by requiring that publicly owned utilities procure 50 percent of their electricity from renewable energy sources by 2030.

¹⁷ California Air Resources Board. *In-Use Off-Road Diesel Vehicle Regulation*. December 10, 2014. Available at: http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm. Accessed August 2016.

Executive Order S-03-05

On June 1, 2005, then-Governor Schwarzenegger signed Executive Order S-03-05, which established total GHG emission targets. Specifically, emissions are to be reduced to year 2000 levels by 2010, 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. The Executive Order directed the Secretary of the California Environmental Protection Agency (Cal-EPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The Secretary is also directed to submit biannual reports to the governor and state legislature describing: (1) progress made toward reaching the emission targets; (2) impacts of global warming on California's resources; and (3) mitigation and adaptation plans to combat these impacts.

To comply with the Executive Order, the Secretary of the Cal-EPA created a Climate Act Team (CAT) made up of members from various State agencies and commissions. In March 2006, CAT released their first report. In addition, the CAT has released several "white papers" addressing issues pertaining to the potential impacts of climate change on California.

Assembly Bill 32

In September 2006, Assembly Bill (AB) 32, the California Climate Solutions Act of 2006, was enacted (Stats. 2006, ch. 488) (Health & Saf. Code, §38500 et seq.). AB 32 delegated the authority for its implementation to the CARB and directs CARB to enforce the State-wide cap. Among other requirements, AB 32 required CARB to (1) identify the State-wide level of GHG emissions in 1990 to serve as the emissions limit to be achieved by 2020, and (2) develop and implement a Scoping Plan. Accordingly, the CARB has prepared the *Climate Change Scoping Plan* (Scoping Plan) for California, which was approved in 2008 and updated in 2014.¹⁸ The Scoping Plan provides the outline for actions to reduce California's GHG emissions. Based on the reduction goals called for in the 2008 Scoping Plan, a 29 percent reduction in GHG levels relative to a Business As Usual (BAU) scenario would be required to meet 1990 levels by 2020. The reduction goal and BAU scenario for the Scoping Plan were based on 2005 emissions projections. A BAU scenario is a baseline condition based on what could or would occur on a particular site in the year 2020 without implementation of a proposed project or any required or voluntary GHG reduction measures, including any State regulation GHG emission reductions. A project's BAU scenario is project- and site-specific, and varies from project to project.

In 2011, the baseline or BAU level for the Scoping Plan was revised based on more recent (2010) data in order to account for the economic downturn and State regulation emission reductions (i.e., Pavley, Low Carbon Fuel Standard [LCFS], and Renewable Portfolio Standard [RPS]). Accordingly, the Scoping Plan emission reduction target from BAU levels required to meet 1990 levels by 2020 was modified from 29 percent to 21.7 percent (where BAU levels do not account for Statewide regulation emission reductions) below the revised estimated BAU level. The amended Scoping Plan was re-approved August 24, 2011, and updated in 2014.¹⁹

¹⁸ California Air Resources Board. *First Update to the Climate Change Scoping Plan.* May 22, 2014.

¹⁹ California Air Resources Board. *Status of Scoping Plan Recommended Measures*. Available at: http://www.arb.ca.gov/cc/scopingplan/status_of_scoping_plan_measures.pdf. Accessed August 2016.

California GHG Cap-and-Trade Program

The AB 32 Scoping Plan identifies a cap-and-trade program as one of the strategies California will employ to reduce the GHG emissions that cause climate change. The program will help put California on the path to meet the GHG emission reduction goal of 1990 levels by the year 2020, and ultimately achieving an 80 percent reduction from 1990 levels by 2050. Under cap-and-trade, an overall limit on GHG emissions from capped sectors would be established by the cap-and-trade program and facilities subject to the cap would be able to trade permits (allowances) to emit GHGs. The CARB has designed a California cap-and-trade program that is enforceable and meets the requirements of AB 32.²⁰ The program started on January 1, 2012, with an enforceable compliance obligation beginning with the 2013 GHG emissions. On January 1, 2014 California linked the state's cap-and-trade plan with Quebec's, and on January 1, 2015 the program expanded to include transportation and natural gas fuel suppliers.²¹

Executive Order S-01-07

On January 18, 2007, then-Governor Schwarzenegger signed Executive Order S-01-07, which mandates that a State-wide goal be established to reduce carbon intensity of California's transportation fuels by at least 10 percent by 2020. The Order also requires that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California.

SB 97

SB 97, signed in August 2007, acknowledges that climate change is an important environmental issue that requires analysis under CEQA. The bill directs the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, by July 1, 2009.

As directed by SB 97, the Governor's Office of Planning and Research (OPR) amended the CEQA Guidelines, effective March 18, 2010, to provide guidance to public agencies regarding the analysis and mitigation of GHG emissions and the effects of GHG emissions in draft CEQA documents. The amendments include revisions to the *Appendix G Initial Study Checklist* that incorporates a new subdivision to address project-generated GHG emissions and contribution to climate change. The new subdivision emphasizes that the effects of GHG emissions are cumulative, and should be analyzed in the context of CEQA's requirements for cumulative impacts analysis. In addition, the revisions include a new subdivision to assist lead agencies in determining the significance of project related GHG emissions. Under the revised CEQA Appendix G checklist, an agency would consider whether the project will generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and whether the project conflicts with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of GHGs.

²⁰ California Air Resources Board. *First Update to the Climate Change Scoping Plan.* May 2014.

²¹ California Air Resources Board. *Status of Scoping Initial Scoping Plan Measures*. Accessible at: https://www.arb.ca.gov/cc/scopingplan/2013_update/appendix_b.pdf. Accessed August 2016.

Guidance on determining the significance of impacts from GHG emissions is also provided in the SB 97 amendments. The guidance suggests the lead agency make a good-faith effort, based on available information, to describe, calculate or estimate the amount of GHG emissions resulting from a project. When assessing the significance of impacts from GHG emissions on the environment, lead agencies can consider the extent to which the project may increase or reduce GHG as compared to the existing environmental setting, whether the project emissions exceed a threshold of significance determined applicable to the project, and/or the extent to which the project complies with adopted regulations or requirements to implement a State-wide, regional, or local plan for the reduction or mitigation of GHG emissions. When adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.

Under the SB 97 amendments, if GHG emissions of a project are determined to be significant, feasible means of mitigating GHG emissions, such as the following, shall be applied:

- Measurement of the reduction of emissions required as part of the lead agency's decision;
- Reductions in emissions resulting from project through project features, design, or other measures;
- Off-site measures, including offsets, to mitigate a project's emissions;
- Measures that sequester GHG gases; and
- If a GHG reduction plan, ordinance, regulation, or other similar plan is adopted, mitigation may include project-by-project measures, or specific measures or policies found in the plan that reduces the cumulative effect of emissions.

SB 375

In September 2008, SB 375, known as the Sustainable Communities and Climate Protection Act of 2008, was enacted, which is intended to build on AB 32 by attempting to control GHG emissions by curbing sprawl. SB 375 enhances CARB's ability to reach goals set by AB 32 by directing CARB to develop regional GHG emission reduction targets to be achieved by the State's 18 metropolitan planning organizations (MPOs), including the Sacramento Area Council of Governments (SACOG). Under SB 375, MPOs must align regional transportation, housing, and land-use plans and prepare a "Sustainable Communities Strategy" (SCS) to reduce the amount of vehicle miles traveled in their respective regions and demonstrate the region's ability to attain its greenhouse gas reduction targets. SB 375 provides incentives for creating walkable and sustainable communities and revitalizing existing communities, and allows home builders to get relief from certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Furthermore, SB 375 encourages the development of alternative transportation options, which will reduce traffic congestion.

Executive Order S-13-08

Then-Governor Arnold Schwarzenegger issued Executive Order S-13-08 on November 14, 2008. The Executive Order is intended to hasten California's response to the impacts of global climate

change, particularly sea level rise, and directs state agencies to take specified actions to assess and plan for such impacts, including requesting the National Academy of Sciences to prepare a Sea Level Rise Assessment Report, directing the Business, Transportation, and Housing Agency to assess the vulnerability of the State's transportation systems to sea level rise, and requiring the Office of Planning and Research and the Natural Resources Agency to provide land use planning guidance related to sea level rise and other climate change impacts.

The order also required State agencies to develop adaptation strategies to respond to the impacts of global climate change that are predicted to occur over the next 50 to 100 years. The adaption strategies report summarizes key climate change impacts to the State for the following areas: public health; ocean and coastal resources; water supply and flood protection; agriculture; forestry; biodiversity and habitat; and transportation and energy infrastructure. The report recommends strategies and specific responsibilities related to water supply, planning and land use, public health, fire protection, and energy conservation.

AB 197 and SB 32

On September 8, 2016, AB 197 and SB 32 were enacted with the goal of providing further control over GHG emissions in the State. SB 32 built on previous GHG reduction goals by requiring that the CARB ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by the year 2030. Additionally, SB 32 emphasized the critical role that reducing GHG emissions would play in protecting disadvantaged communities and the public health from adverse impacts of climate change. Enactment of SB 32 was predicated on the enactment of AB 197, which seeks to make the achievement of SB 32's mandated GHG emissions from facilities required to report such emissions pursuant to Section 38530 of California's Health and Safety Code. AB 197 further established a six-member Joint Legislative Committee on Climate Change Policies, which is intended to provide oversight and accountability of the CARB, while also adding two new legislatively-appointed, non-voting members to the CARB. Additionally, AB 197 directs the CARB to consider the "social costs" of emission reduction rules and regulations, with particular focus on how such measures may impact disadvantaged communities.

California Building Standards Code

California's building codes (California Code of Regulations [CCR], Title 24) are published on a triennial basis, and contain standards that regulate the method of use, properties, performance, or types of materials used in the construction, alteration, improvement, repair, or rehabilitation of a building or other improvement to real property. The California Building Standards Commission (CBSC) is responsible for the administration and implementation of each code cycle, which includes the proposal, review, and adoption process. Supplements and errata are issued throughout the cycle to make necessary mid-term corrections. The 2016 code has been prepared and becomes effective January 1, 2017. The California building code standards apply State-wide; however, a local jurisdiction may amend a building code standard if the jurisdiction makes a finding that the amendment is reasonably necessary due to local climatic, geological, or topographical conditions.

California Green Building Standards Code

The 2016 California Green Building Standards Code, otherwise known as the CALGreen Code (CCR Title 24, Part 11), is a portion of the CBSC, which becomes effective with the rest of the CBSC on January 1, 2017. The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices. The provisions of the code apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout California.

The CALGreen Code encourages local governments to adopt more stringent voluntary provisions, known as Tier 1 and Tier 2 provisions, to further reduce emissions, improve energy efficiency, and conserve natural resources. If a local government adopts one of the tiers, the provisions become mandates for all new construction within that jurisdiction. The City of Lincoln has not adopted any voluntary provisions of the CALGreen Code to date.

Building Energy Efficiency Standards

The 2016 Building Energy Efficiency Standards is a portion of the CBSC, which expands upon energy efficiency measures from the 2013 Building Energy Efficiency Standards resulting in a 28 percent reduction in energy consumption from the 2013 standards for residential structures. Energy reductions relative to previous Building Energy Efficiency Standards would be achieved through various regulations including requirements for the use of high efficacy lighting, improved water heating system efficiency, and high performance attics and walls.

Local Regulations

Regulations from the applicable Placer County agencies and the City of Lincoln are presented below.

<u>PCAPCD</u>

The PCAPCD regulates many sources of pollutants in the ambient air, and is responsible for implementing certain programs and regulations for controlling air pollutant emissions to improve air quality in order to attain federal and State AAQS. Various development projects have the potential to generate air pollutants that would result in adverse environmental impacts. In order to evaluate air pollutant emissions from development projects, the PCAPCD established significance thresholds for emissions of ROG, NO_X, and PM₁₀. The significance thresholds, expressed in pounds per day (lbs/day), serve as air quality standards in the evaluation of air quality impacts associated with proposed development projects. Thus, if the proposed project's emissions exceed the PCAPCD thresholds, the project could have a significant effect on regional air quality and attainment of federal and State AAQS. The significance thresholds, expressed in pounds per day (lbs/day), listed in Table 4.2-6 are the PCAPCD's updated recommended thresholds of significance for use in the evaluation of air quality impacts associated with proposed development

projects. Thus, if the proposed project's emissions exceed the pollutant thresholds presented in Table 4.2-6, the project could have a significant effect on air quality, the attainment of federal and State AAQS, and could conflict with or obstruct implementation of the applicable air quality plan.

Table 4.2-6 PCAPCD Thresholds of Significance		
PollutantConstruction Threshold (lbs/day)Operational/Cumulative ThresholdVolume(lbs/day)(lbs/day)		
ROG	82	55
NO _X	82	55
PM ₁₀	82	82
Source: Placer County Air Pollution Control District. Placer County Air Pollution Control District Policy. Review		

of Land Use Projects Under CEQA. October 13, 2016.

Additionally, the PCAPCD has developed screening criteria for determining whether a project would cause substantial localized CO emissions at a given intersection or roadway. If the project would result in either of the following conditions, the project could potentially result in substantial concentrations of localized CO and further analysis would be required:

- Degrade the peak hour level of service (LOS) on one or more streets or at one or more intersections (both signalized and non-signalized) in the project vicinity from an acceptable LOS (i.e., LOS A, B, C, or D) to an unacceptable LOS (i.e., LOS E or F); or
- Substantially worsen an already existing unacceptable peak hour LOS on one or more streets or at one or more intersections in the project vicinity. "Substantially worsen" includes an increase in delay at an intersection by 10 seconds or more when project-generated traffic is included.

For TAC emissions, if a project would introduce a new source of TACs or a new sensitive receptor near an existing source of TACs that would not meet the CARB's minimum recommended setback, a detailed health risk assessment may be required. The PCAPCD considers an increase in cancer risk levels of more than 10 in one million persons or a non-cancer hazard index greater than 1.0 to be a significant impact related to TACs.

On October 13, 2016, the PCAPCD adopted GHG emissions thresholds in concert with the aforementioned criteria pollutant threshold update. The updated GHG thresholds include a bright-line threshold for the construction and operational phase of land use projects and stationary source projects, a screening level threshold for the operational phase of land use projects, and efficiency thresholds for the operational phase of land use projects that result in GHG emissions that fall between the bright-line threshold and the screening level threshold. The bright-line threshold of 10,000 MTCO₂e/yr represents the level at which a project's GHG emissions would be substantially large enough to contribute to cumulative impacts and mitigation to lessen the emissions would be mandatory. Any project with GHG emissions below the screening level threshold of 1,100 MTCO₂e/yr is judged by the PCAPCD as having a less-than-significant impact related to GHG emissions, and would not conflict with any State or regional GHG emissions reduction goals. Projects that would result in GHG emissions above the 1,100 MTCO₂e/yr screening level threshold of 10,000 MTCO₂e/yr screening level

below the efficiency thresholds in order to be considered to result in a less-than-significant impact related to GHG emissions and not conflict with any State or regional GHG emissions reduction goals. The GHG efficiency thresholds, which are in units of $MTCO_2e/yr$ per capita or per square-foot, are presented in Table 4.2-7.

Table 4.2-7 PCAPCD Operational GHG Efficiency Thresholds of Significance			
Residential (MTCO ₂ e/capita) Non-Residential (MTCO ₂ e/1,000 sf)			
Urban	Rural	Urban	Rural
4.5	5.5	26.5	27.3
Source: Placer County Air Pollution Control District. Placer County Air Pollution Control District Policy. Review of Land Use Projects Under CEQA. October 13, 2016.			

Air Quality Attainment Plans

As a part of the SVAB federal ozone nonattainment area, the PCAPCD works with the other local air districts within the Sacramento area to develop a regional air quality management plan under the FCAA requirement. The regional air quality management plan is called the State Implementation Plan (SIP) which describes and demonstrates how Placer County, as well as the Sacramento nonattainment area, would attain the required federal ozone standard by the proposed attainment deadline. In accordance with the requirements of the FCAA, the PCAPCD, along with the other air districts in the region, prepared the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (Ozone Attainment Plan), adopted by the PCAPCD on February 19, 2009. The CARB determined that the Ozone Attainment Plan met federal Clean Air Act requirements and approved the Plan on March 26, 2009 as a revision to the SIP. Revisions to the Placer County portion of the SIP or Ozone Attainment Plan were made and adopted on August 11, 2011. In addition, an update to the plan, 2013 Revisions to the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 Ozone Attainment Plan), has been prepared and was adopted on September 26, 2013, and approved by CARB as a revision to the SIP on November 21, 2013. The 2013 Ozone Attainment Plan was approved by the USEPA on January 9, 2015.

The 2013 Ozone Attainment Plan demonstrates how existing and new control strategies would provide the necessary future emission reductions to meet the FCAA requirements, including the NAAQS. It should be noted that in addition to strengthening the 8-hour ozone NAAQS, the USEPA also strengthened the secondary 8-hour ozone NAAQS, making the secondary standard identical to the primary standard. The SVAB remains classified as a severe nonattainment area with an attainment deadline of 2027. On October 26, 2015, the USEPA released a final implementation rule for the revised NAAQS for ozone to address the requirements for reasonable further progress, modeling and attainment demonstrations, and reasonably available control measures (RACM) and reasonably available control technology (RACT). With the publication of the new NAAQS ozone rules, the USEPA is expected to publish attainment designations for the more stringent standard by October 1, 2017.

Because the proposed project is located within the current nonattainment area for ozone, the project would be subject to the requirements set forth in the 2013 Ozone Attainment Plan, as enforced by PCAPCD through rules and regulations.

PCAPCD Rules and Regulations

All projects under the jurisdiction of the PCAPCD are required to comply with all applicable PCAPCD rules and regulations. The proposed project's compliance with such rules and regulations shall be noted on County-approved construction plans. The PCAPCD regulations and rules include, but are not limited to, the following:

Regulation 2 – Prohibitions

Regulation 2 is comprised of prohibitory rules that are written to achieve emission reductions from specific source categories. The rules are applicable to existing sources as well as new sources. Examples of prohibitory rules include Rule 202 related to visible emissions, Rule 217 related to asphalt paving materials, Rule 218 related to architectural coatings, Rule 228 related to fugitive dust, Rule 205 related to nuisance, and Rule 225 related to wood-burning appliances.

Regulation 5 – Permits

Regulation 5 is intended to provide an orderly procedure for the review of new sources, and modification and operation of existing sources, of air pollution through the issuance of permits. Regulation 5 primarily deals with permitting major emission sources and includes, but is not limited to, rules such as General Permit Requirements (Rule 501), New Source Review (Rule 502), Emission Statement (Rule 503), Emission Reduction Credits (Rule 504), and Toxics New Source Review (Rule 513). Additionally, PCAPCD requires any portable engine-driven equipment, greater than 50 horsepower, operated within Placer County to obtain a permit prior to operation within the County. Such equipment includes, but is not limited to, power generators, welding equipment, compressors, and concrete pumping equipment.

City of Lincoln General Plan

Chapter 6, General Plan Policy Consistency, identifies adopted General Plan policies that are relevant to the evaluation of air quality and GHG emissions and an evaluation of consistency with those policies. No inconsistencies with the General Plan policies are identified. However, while City staff has done its best to ascertain consistency, the Lincoln City Council makes the ultimate decision regarding consistency with the General Plan.

4.2.4 IMPACTS AND MITIGATION MEASURES

The standards of significance and methodology used to analyze and determine the proposed project's potential project-specific impacts related to air quality and GHG emissions are described

below. In addition, a discussion of the proposed project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Based on the recommendations of PCAPCD and in coordination with the City, consistent with Appendix G of the CEQA Guidelines and professional judgment, a significant impact would occur if the proposed project would result in any of the following:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation (i.e., exceed the PCAPCD thresholds of significance listed in Table 4.2-6);
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations (including localized CO concentrations and TAC emissions);
- Create objectionable odors affecting a substantial number of people;
- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Method of Analysis

The analysis protocol and guidance provided by the PCAPCD's *CEQA Air Quality Handbook* was used to analyze the proposed project's air quality and GHG emissions impacts, including screening criteria and thresholds of significance. Where potentially significant air quality or GHG emissions impacts are identified, mitigation measures are required that would reduce or eliminate the impact.

The proposed project's short-term construction, long-term operational, and GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) software version 2016.3.1 - a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including GHG emissions, from land use projects. The model applies inherent default values for various land uses, including trip generation rates based on the ITE Manual, vehicle mix, trip length, average speed, etc. However, where project-specific data was available, such data was input into the model.

Based on information provided by the project applicant, the following conservative assumptions were made for the project construction modeling:

- Demolition would not be required;
- Construction was assumed to commence in April 2018;

- All construction activities would occur over a single phase;
- A total of approximately 35.22 acres would be disturbed during the grading phase;
- Both Virginiatown Road and Hungry Hollow Road would be widened for a combined road paving area of 96,587 square feet; and
- Construction was assumed to occur over an approximately four-year period.

Compliance with PCAPCD rules and regulations is not inherently accounted for in CalEEMod. As such, the modeling has been adjusted to reflect the use of only low-VOC paints, per PCAPCD Rule 218 related to architectural coatings, and low-VOC cleaning supplies, which are regulated by the PCAPCD. It should be noted that compliance with PCAPCD Rule 228 related to fugitive dust is not inherently included in the model, and adjustments were not applied to the model, as the full extent of reductions due to implementation of the requirements of Rule 228 cannot be captured using the model. Thus, the construction-related emissions presented in this analysis represent a conservative estimate, as the proposed project would be required to implement Rule 228, which would result in a reduction of construction-related emissions from what is presented in this analysis.

Based on the construction information provided by the project applicant, and the conservative assumption that the market would support building the project in a single phase, the proposed project is anticipated to be fully operational by 2022. The modeling performed for the proposed project included compliance with the 2016 CALGreen Code and Building Energy Efficiency Standards. All buildings within the State of California are required to comply with the mandatory standards within the currently effective CBSC as well as the CALGreen Code and Building Energy Efficiency Standards therein. The proposed project's compliance with the CALGreen Code and Building approval review process. The project-specific trip generation rate and vehicle miles traveled (VMT) provided by Fehr & Peers were also applied to the project modeling. The project's inherent site and design features have been applied to the modeling as well. For example, the project site's proximity to the nearest existing bus stop, which is located approximately 1.21 miles from the site at East Avenue and 7th Street, and the project's incorporation of pedestrian connections on-site and off-site (i.e., sidewalks throughout site and improvements along Virginiatown Road and Hungry Hollow Road) were applied as inherent features of the project in the modeling.

The results of emissions estimations were compared to the standards of significance discussed above in order to determine the associated level of impact. All CalEEMod modeling results are included in Appendix D to this EIR.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on implementation of the proposed project in comparison with the standards of significance identified above.

4.2-1 Violate any air quality standard or contribute substantially to an existing or projected air quality violation during construction. Based on the analysis below, the impact is *less than significant*.

During construction of the project, various types of equipment and vehicles would temporarily operate on the project site. Construction-related emissions would be generated from construction equipment, vegetation clearing and earth movement activities, construction workers' commute, and construction material hauling for the entire construction period. The aforementioned activities would involve the use of diesel- and gasoline-powered equipment that would generate emissions of criteria pollutants. Project construction activities also represent sources of fugitive dust, which includes PM emissions. As construction of the proposed project would generate emissions of criteria air pollutants, including ROG, NO_X, and PM₁₀, intermittently within the site and in the vicinity of the site, until all construction has been completed, construction is a potential concern, as the proposed project is located in a nonattainment area for ozone and PM.

The proposed project's construction-related emissions have been estimated using CalEEMod and compared to the applicable thresholds of significance. The modeling assumptions used for construction of the proposed project are described in the Method of Analysis section above. The proposed project's estimated unmitigated maximum construction-related emissions are presented in Table 4.2-8.

Table 4.2-8 Maximum Unmitigated Project Construction-Related Emissions		
Project Emissions PCAPCD Significance Threshold Pollutant (lbs/day) (lbs/day)		
ROG	6.97	82
NO _X	59.62	82
PM ₁₀	20.87	82
Source: CalEEMod, December 2016 (see Appendix D).		

As shown in Table 4.2-8 the project's associated short-term construction-related emissions would be below the applicable PCAPCD thresholds of significance. Nonetheless, per PCAPCD Rule 228, a Dust Control Plan specifying construction dust control measures must be submitted to the PCAPCD prior to the start of earth-disturbing activities. Dust control measures that could be featured in the Dust Control Plan include, but are not limited to, minimizing track-out on to paved public roadways, limiting vehicle travel on unpaved surfaces to 15 miles per hour, and stabilization of storage piles and disturbed areas. Such measures would further reduce fugitive PM_{10} emissions from what is presented in Table 4.2-8 above. Emissions of NO_X and other pollutants related to construction equipment would also be further reduced through various PCAPCD permitting requirements. PCAPCD permitting, including Rule 501 and Rule 502, requires project contractors to obtain permits for portable equipment and engines by submitting an inventory of all heavy-duty off-road equipment (50 horsepower or greater) that would be used in aggregate of 40 or more hours for construction activities. The heavy-duty off-road equipment list is used to prepare a Construction Mitigation Calculation for the PCAPCD showing that a project-

wide fleet-average 20 percent reduction of NO_X and a 45 percent reduction in DPM emissions, as compared to the statewide fleet average, are achieved.

Because the proposed project's estimated unmitigated emissions would be below the applicable PCAPCD thresholds of significance, and emissions would be further reduced through adherence to the aforementioned PCAPCD regulations, construction activities associated with development of the proposed project would not substantially contribute to the PCAPCD's nonattainment status for ozone or PM. Accordingly, construction of the proposed project would not violate any AAQS or contribute substantially to an existing or projected air quality violation, and a *less-than-significant* impact would occur associated with construction.

<u>Mitigation Measure(s)</u> *None required*.

4.2-2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation during operations, and conflict with or obstruct implementation of the applicable air quality plan. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As discussed above, due to the nonattainment designations of the area, the PCAPCD has developed plans to attain the State and federal standards for ozone and particulate matter. The currently applicable air quality plan is the 2013 Ozone Attainment Plan. Adopted PCAPCD rules and regulations, as well as the thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with the applicable air quality plan. Thus, if a project's operational emissions exceed the PCAPCD's mass emission thresholds, a project would be considered to conflict with or obstruct implementation of the PCAPCD's air quality planning efforts.

Operational emissions of ROG, NO_X , and PM_{10} would be generated by the proposed project from both mobile and stationary sources. Day-to-day activities such as future resident vehicle trips to and from the project site would make up the majority of the mobile emissions. Emissions would also occur from area sources such as architectural coatings, wood burning in fire places, landscape maintenance equipment exhaust, and consumer products (e.g., deodorants, detergents, hair spray, cleaning products, spray paint, insecticides, floor finishes, polishes, etc.).

The proposed project's maximum unmitigated operational emissions have been estimated using CalEEMod. The operational modeling assumptions are described in detail in the Method of Analysis section above. The resultant emissions estimated for operation of the proposed project are presented in Table 4.2-9 below.

Table 4.2-9 Maximum Unmitigated Project Operational Emissions		
PollutantProject EmissionsPCAPCD Project-LevelSignificance ThresholdSignificance Threshold		
ROG	229.63	55
NO _X	18.30	55
PM_{10}	42.84	82
Source: CalEEMod, December 2016 (see Appendix D).		

As shown in the table, the project's operational emissions of NO_X and PM₁₀ would be below the applicable PCAPCD thresholds of significance. However, emissions of ROG would exceed the applicable PCAPCD threshold of significance, and, thus, could be considered to contribute substantially to the region's nonattainment status of ozone. Therefore, the project could violate an AAQS, contribute substantially to an existing or projected air quality violation, or conflict with and/or obstruct implementation of the PCAPCD's air quality planning efforts, and impacts related to long-term operational emissions of criteria air pollutants, particularly ozone, associated with development of the proposed project would be *significant*.

Mitigation Measure(s)

Implementation of Mitigation Measure 4.2-2 below, which is consistent with General Plan Policy HS-3.11, which requires the use of natural gas or the installation of low emission, EPA-certified fireplace inserts in all open-hearth fireplaces in new homes, would reduce the proposed project's ROG emissions from a maximum of 229.63 lbs/day to a maximum of 10.94 lbs/day, as shown in Table 4.2-10, which would be below the applicable threshold of significance. As shown in the table, emissions of NO_X and PM₁₀ would also be further reduced with implementation of Mitigation Measure 4.2-1. Thus, implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

Table 4.2-10 Maximum Mitigated Project Operational Emissions		
Project EmissionsPCAPCD Significance ThresholdPollutant(lbs/day)(lbs/day)		
ROG	10.94	55
NO _X	15.55	55
PM_{10}	4.54	82
Source: CalEEMod, December 2016 (see Appendix D).		

^{4.2-2} Wood-burning fireplaces, woodstoves, or similar wood-burning devices shall be prohibited throughout the proposed project plan area. Homes may be fitted with the applicable regulation-compliant natural gas burning appliances if desired. The prohibition shall be included on any project plans submitted prior to issuance of building permits, subject to review and approval by the City's Community Development Department.

4.2-3 Expose sensitive receptors to substantial pollutant concentrations. Based on the analysis below, the impact is *less than significant*.

The major pollutants of concern are localized CO emissions and TAC emissions, which are addressed below.

Localized CO Emissions

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. Implementation of the proposed project would increase traffic volumes on streets near the project site; therefore, the project would be expected to increase local CO concentrations. Concentrations of CO approaching the AAQS are only expected where background levels are high, and traffic volumes and congestion levels are high. The statewide CO Protocol document identifies signalized intersections operating at Level of Service (LOS) E or F, or projects that would result in the worsening of signalized intersections to LOS E or F, as having the potential to result in localized CO concentrations in excess of AAQS, as a result of large numbers of cars idling at stop lights.²² In accordance with the statewide CO Protocol, the PCAPCD has established screening methodology for localized CO emissions, which are intended to provide a conservative indication of whether project-generated vehicle trips would result in the generation of localized CO emissions that would contribute to an exceedance of AAOS and potentially expose sensitive receptors to substantial CO concentrations. Per the PCAPCD's screening methodology, if the project would result in either of the following, the project could result in localized CO emissions that would violate CO standards:

- Degrade the peak hour level of service (LOS) on one or more streets or at one or more intersections (both signalized and non-signalized) in the project vicinity from an acceptable LOS (i.e., LOS A, B, C, or D) to an unacceptable LOS (i.e., LOS E or F); or
- Substantially worsen an already existing unacceptable peak hour LOS on one or more streets or at one or more intersections in the project vicinity. "Substantially worsen" includes an increase in delay at an intersection by 10 seconds or more when project-generated traffic is included.

Based on the statewide CO Protocol, an increase in the volume of traffic at an intersection or along a roadway of five percent or more when project-generated traffic is included would also be considered to substantially worsen a roadway or intersection already operating unacceptably.

The proposed project's potential impacts to traffic in the project area are analyzed within chapter 4.10, Transportation and Circulation, of this EIR. Chapter 4.10 relies on the transportation analysis prepared for the proposed project by Fehr & Peers, the technical traffic modelling results of which are included in Appendix P to this EIR.

²² University of California, Davis. *Transportation Project-Level Carbon Monoxide Protocol*. December 1997.

Fehr & Peers concluded that traffic generated by the proposed project would not degrade any intersections that are currently operating at an acceptable LOS of A, B, C, or D to an unacceptable LOS of E or F under existing plus project conditions. However, the project would increase traffic at the intersection of 7th Street and East Avenue, which is currently operating unacceptably. Fehr & Peers anticipates that the increase in traffic induced by the proposed project at 7th Street and East Avenue would increase the average vehicle delay during the AM peak hour by one second, which would be well below the PCAPCD's ten second delay screening threshold for CO emissions at intersections operating at unacceptable LOS. Therefore, based on the PCAPCD's screening levels for localized CO emissions, the increase in traffic related to buildout of the proposed project would not result in excess CO emissions under existing conditions.

Under cumulative operating conditions, Fehr & Peers concluded that the following intersections would operate at unacceptable levels (LOS E or F):

- 7th Street/East Ave
- 12th Street/East Ave
- Virginiatown Rd/McCourtney Rd
- Virginiatown Rd/Oak Tree Ln/Hungry Hollow Rd

Furthermore, under cumulative operating conditions, Fehr & Peers concluded that the following roadway segments would operate at unacceptable levels (LOS E or F):

- Sierra College Boulevard between SR 193 & Taylor Road;
- Lincoln Boulevard between Joiner Parkway and the SR 65 Interchange; and
- Virginiatown Road between Hungry Hollow Road and McCourtney Road.

As further discussed in chapter 4.10 of this EIR, the proposed project would not increase the delay at the intersections of 7th Street/East Avenue, 12th Street/East Avenue, or Virginiatown Road/McCourtney Road by more than ten seconds, nor would traffic generated by the proposed project alone result in the degradation of any intersection LOS from acceptable to unacceptable levels. According to the traffic analysis prepared for the proposed project, the intersection of Virginiatown Road/Oak Tree Lane/Hungry Hollow Road could experience an increase in delay greater than 10 seconds under cumulative conditions with the addition of project-induced traffic. However, implementation of Mitigation Measure 4.10-9 of this EIR would improve the operations at the intersection of Virginiatown Road/Oak Tree Lane/Hungry Hollow Road from unacceptable LOS to acceptable LOS under cumulative conditions. Implementation of Mitigation Measure 4.10-9 would be required for the proposed project to reduce impacts to a less-than-significant level, would be incorporated into the project, and adopted as a condition of approval that would be enforced by the City. Accordingly, the intersection would operate acceptably with implementation of the proposed project, as the project would include the necessary mitigation measure to reduce the cumulative impact at the affected intersection.

Although Sierra College Boulevard between SR 193 and Taylor Road, Lincoln Boulevard between Joiner Parkway and the SR 65 Interchange, and Virginiatown Road between Hungry Hollow Road and McCourtney Road roadway segments would operate at unacceptable levels under cumulative conditions, based on the average daily trips (ADT) presented in Table 4.10-15 of chapter 4.10 of this EIR, the proposed project increase in ADT along each of the roadways would be less than five percent. For example, the proposed project would contribute the greatest increase in ADT along the Virginiatown Road between Hungry Hollow Road and McCourtney Road roadway segment - an increase from 17,600 ADT to 18,200 ADT. The increase in ADT along the roadway due to the proposed project would be an increase in traffic of approximately 3.4 percent. Because the increase in traffic volume on the impacted roadway segments due to the proposed project would be less than five percent, the proposed project would not be considered to substantially worsen the already unacceptable roadway segment of Virginiatown Road between Hungry Hollow Road and McCourtney Road.

Based on the above, and considering the PCAPCD's screening methodology for localized CO emissions, the proposed project would not be expected to generate localized CO emissions that would contribute to an exceedance of AAQS. Consequently, the proposed project would not expose sensitive receptors to substantial concentrations of localized CO.

TAC Emissions

As stated above, if a project would introduce a new source of TACs or a new sensitive receptor near an existing source of TACs that would not meet the CARB's minimum recommended setback, a detailed health risk assessment may be required. The PCAPCD considers an increase in cancer risk levels of more than 10 in one million persons or a non-cancer hazard index greater than 1.0 to be a significant impact related to TACs.

The CARB Handbook provides recommendations for siting new sensitive land uses near existing sources typically associated with significant levels of TAC emissions, including, but not limited to, freeways and high traffic roads, distribution centers, and rail yards. Additionally, the CARB Handbook provides recommendations on siting new sources of TACs near existing sensitive receptors. The existing residential development adjacent to the eastern boundary of the project site, as well as the rural residential developments to the west of the project site would be considered sensitive receptors. Thus, activities related to the construction and operation of the proposed project are analyzed to determine whether the proposed project would expose nearby sensitive receptors to TAC emissions.

The CARB has identified DPM from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Health risks from TACs are a function of both the concentration of emissions and the duration of exposure. Health-related risks associated with DPM in particular are primarily associated with long-term exposure and associated risk of contracting cancer.

Construction-related activities have the potential to generate concentrations of TACs, specifically DPM, from on-road haul trucks and off-road equipment exhaust emissions. However, construction would be temporary and would occur over a relatively short duration in comparison to the operational lifetime of the proposed project. While methodologies for conducting health risk assessments are associated with long-term exposure periods (e.g., over a 30-year period), construction activities associated with the proposed project would occur over an approximately four-year period. Only portions of the site would be disturbed at a time throughout the construction period, with operation of construction equipment occurring intermittently throughout the course of a day rather than continuously at any one location on the project site. In addition, all construction equipment and operation thereof would be regulated per the In-Use Off-Road Diesel Vehicle Regulation. Project construction would also be required to comply with all applicable PCAPCD rules and regulations, including Rule 501 related to General Permit Requirements. Considering the intermittent nature of construction equipment operating within an influential distance to the nearest sensitive receptors, the duration of construction activities in comparison to the operational lifetime of the project, the typical long-term exposure periods associated with conducting health risk assessments, and compliance with regulations, the likelihood that any one nearby sensitive receptor would be exposed to high concentrations of DPM for any extended period of time would be low.

In addition, according to PCAPCD, if construction emissions are below the applicable mass emissions thresholds of significance, construction DPM would not be generated such that associated health risks would result.²³ As discussed above, the proposed project's construction-related emissions would be below the applicable mass emissions thresholds of significance for PM₁₀, which includes DPM and fugitive dust related to construction. As such, construction of the proposed project would not be expected to generate substantial DPM emissions such that an increase in cancer risk levels of more than 10 in one million persons or a non-cancer hazard index greater than 1.0 would occur. Therefore, the proposed project would not expose sensitive receptors to substantial concentrations of DPM during construction.

Operational-related emissions of TACs are typically associated with stationary diesel engines or land uses that involve heavy truck traffic or idling. The residential development proposed as part of the project would not involve long-term operation of any stationary diesel engines or other major on-site stationary source of TACs. The CARB's Handbook includes facilities (distribution centers) associated with 100 or more heavy-duty diesel trucks per day as a source of substantial DPM emissions. The project is not a distribution center, and is not located near any existing distribution centers. Residential developments do not involve frequent heavy-duty diesel truck trips. Some future residents may own diesel-fueled vehicles; however, emissions from passenger vehicles are typically less intense than from heavy-duty trucks, and the likelihood that the equivalent of 100 heavy-duty diesel trucks per day would occur from diesel-fueled passenger vehicles to and from the site is very low. Accordingly, the proposed project would not involve diesel trucks at

²³ Angel Green, Associate Planner, Placer County Air Pollution Control District. Personal communication with Nick Pappani, Vice President of Raney Planning & Management, Inc. September 21, 2015.

the site in excess of 100 per day and would not be expected to expose any existing sensitive receptors to substantial DPM emissions associated with truck trips. Therefore, operation of the proposed project would not result in an increase in cancer risk levels of more than 10 in one million persons or a non-cancer hazard index greater than 1.0, and existing nearby sensitive receptors would not be exposed to substantial pollutant concentrations.

Naturally Occurring Asbestos

According to the Special Report 190: Relative Likelihood for the Presence of Naturally Occurring Asbestos in Placer County, California, prepared by the Department of Conservation, the project site is located within an area categorized as least likely to contain NOA, because faults and serpentinite outcroppings are not known to be in the project area.²⁴ Consequently, NOA is not anticipated to be present on the project site.

Conclusion

Based on the above analysis, the proposed residential land uses would not be anticipated to result in the production of substantial concentrations of DPM or localized CO. In addition, the likelihood of NOA being present on the project site is low. Therefore, the proposed project would not result in the exposure of sensitive receptors to substantial pollutant concentrations, and a *less-than-significant* impact would result.

<u>Mitigation Measure(s)</u> *None required*.

4.2-4 Create objectionable odors affecting a substantial number of people. Based on the analysis below, the impact is *less than significant*.

Odors are generally regarded as an annoyance rather than a health hazard. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative methodologies to determine the presence of a significant odor impact do not exist. Certain land uses such as wastewater treatment facilities, landfills, confined animal facilities, composting operations, food manufacturing plants, refineries, and chemical plants have the potential to generate considerable odors. The proposed project would not introduce any such land uses.

Diesel fumes from construction equipment could be found to be objectionable; however, as addressed above, operation of construction equipment would be regulated by PCAPCD rules and regulations, restricted to certain hours per Section 9.36.030(A)(7) of the Placer County Code, would occur intermittently throughout the course of a day, and would be temporary in nature. For the aforementioned reasons, the project would not result in any noticeable objectionable odors associated with construction that would affect a substantial number of people.

²⁴ Department of Conservation, California Geological Survey. Special Report 190: Relative Likelihood for the Presence of Naturally Occurring Asbestos in Placer County, California. Published 2006.

PCAPCD Rule 205, Nuisance, addresses the exposure of "nuisance or annoyance" air contaminant discharges, including odors, and provides enforcement of odor control. Rule 205 is complaint-based, where if public complaints are sufficient to cause the odor source to be considered a public nuisance, then the PCAPCD is required to investigate the identified source. The PCAPCD is also required to determine and ensure a solution for the source of the complaint, which could include operational modifications to correct the nuisance condition. Thus, although not anticipated, if odor complaints are made during construction or operation of the proposed project, the PCAPCD would be required (per PCAPCD Rule 205) to ensure that such complaints are addressed and mitigated, as necessary.

It should be noted that as part of the ongoing *California Building Industry Association v.* Bay Area Air Quality Management District case, the California Supreme Court granted limited review to the question: Under what circumstances, if any, does CEQA require an analysis of how existing environmental conditions will impact future residents or users (receptors) of a proposed project? In the opinion published on December 17, 2015, the Supreme Court looked closely at the language and legislative intent in CEQA, and found that CEQA does not provide "enough of a basis to suggest that the term 'environmental effects' [...] is meant, as a general matter, to encompass these broader considerations associated with the health and safety of a project's future residents or users." Based on the Supreme Court opinion, it would be considered appropriate to evaluate a project's potentially significant *exacerbating* effects on existing environmental hazards – effects that arise because the project brings "development and people into the area affected." The Supreme Court stated that even in those specific instances where evaluation of a project's potentially significant exacerbating effects on existing environmental hazards is appropriate, the evaluation of how future residents or users could be affected by the exacerbated conditions is still compelled by the project's impact on the environment, and not the environment's impact on the project.²⁵

While the proposed project would not include any construction-related or operational sources of odors that would impact the existing environment, the City believes that despite the California Supreme Court's decision, and to disclose a greater level of information to the public and decision makers, potential impacts related to the proposed project's proximity to the closed Lincoln Landfill should be analyzed.

The closed Lincoln Landfill site is located opposite of the project site across Virginiatown Road to the south. According to the California Department of Resources Recycling and Recovery (CalRecycle), the landfill ceased operation in 1988.²⁶ The landfill was subsequently closed in November 1992. As discussed in the Existing Environmental Setting, above, post-closure methane monitoring at the landfill verified that the landfill is

²⁵ Alameda County Superior Court. California Building Industry Association v. Bay Area Air Quality Management District. A135335 and A136212. Filed August 12, 2016.

²⁶ CTE CAL, Inc. Preliminary Geotechnical Engineerng Investigation, Lincoln Meadows Subdivision, NWC Virginiatown and Hungry Hollow Roads, Lincoln, California. February 27, 2015.

not emitting detectable quantities of methane. Considering the probable link between methane production and the production of odiferous compounds, the lack of methane emissions indicates a comparable lack of odiferous compound emissions. In addition, the City has/has not received any complaints about odors from the closed landfill. Consequently, the likelihood that the nearby landfill would expose future residents to substantial odors is low. Additionally, the Lincoln Landfill is outside of the proposed project area, and disturbance of the landfill would not occur due to the proposed project. Therefore, considering the California Supreme Court's recent ruling, the proposed project would not be anticipated to create an impact related to odors through exacerbating an existing environmental hazard.

For the aforementioned reasons, construction and operation of the proposed project would not create objectionable odors affecting a substantial number of people, and as discussed above, the existing environmental condition of the Lincoln Landfill would not expose future residents to substantial odors, nor would the project exacerbate any potential hazards associated with the Lincoln Landfill. As such, impacts related the creation of objectionable odors would be *less than significant*.

<u>Mitigation Measure(s)</u> None required.

Cumulative Impacts and Mitigation Measures

A project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects. The geographic context for the cumulative air quality analysis includes Placer County and surrounding areas within the portion of the SVAB that is designated nonattainment for ozone and PM.

Global climate change is, by nature, a cumulative impact. Emissions of GHG contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change (e.g., sea level rise, impacts to water supply and water quality, public health impacts, impacts to ecosystems, impacts to agriculture, and other environmental impacts). A single project could not generate enough GHG emissions to contribute noticeably to a change in the global average temperature. However, the combination of GHG emissions from a project in combination with other past, present, and future projects could contribute substantially to the world-wide phenomenon of global climate change and the associated environmental impacts. Although the geographical context for global climate change is the Earth, for analysis purposes under CEQA and due to the regulatory context pertaining to GHG emissions and global climate change in this EIR is limited to the State of California.

4.2-5 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). Based on the analysis below and with implementation of mitigation, the impact is *less than cumulatively considerable*.

The proposed project is within a nonattainment area for ozone and PM. The population growth and vehicle usage within the nonattainment area from the proposed project, in combination with other past, present, and reasonably foreseeable projects within Placer County and surrounding areas, could either delay attainment of AAQS or require the adoption of additional controls on existing and future air pollution sources to offset emission increases. Thus, the project's emissions of criteria air pollutants would contribute to cumulative regional air quality effects.

The PCAPCD directs lead agencies to use the region's existing attainment plans as a basis for analysis of cumulative emissions. If a project would interfere with an adopted attainment plan, the project would inhibit the future attainment of AAQS, and thus result in a cumulative impact. As discussed throughout this chapter, the PCAPCD's recommended thresholds of significance for ozone precursors and PM₁₀ are based on attainment plans for the region. Thus, the PCAPCD concluded that if a project's ozone precursor and PM₁₀ emissions would be less than PCAPCD project-level thresholds, the project would not be expected to conflict with any relevant attainment plans, and would not result in a cumulatively considerable contribution to a significant cumulative impact. As a result, the operational phase cumulative-level emissions thresholds established by PCAPCD are identical to the project-level operational emissions thresholds, as shown in Table 4.2-6, above.

Accordingly, if the proposed project would result in an increase of ROG, NO_X or PM_{10} in excess of PCAPCD's operational phase cumulative-level emissions threshold, which are identical to PCAPCD's project-level operational emissions thresholds, the project could potentially result in a significant contribution towards cumulative air quality impacts. The proposed project's cumulative contribution to regional emissions is presented below in Table 4.2-11.

As shown in Table 4.2-11, the proposed project's operational emissions of ROG would exceed the applicable threshold of significance. Therefore, the proposed project could result in a cumulatively considerable net increase in criteria pollutants for which the region is in non-attainment and impacts could be *significant and cumulatively considerable*.

Table 4.2-11Maximum Unmitigated Project Contribution of Operational Emissions to			
	Cumulative Condition	S	
Project Emissions PCAPCD Cumulative Pollutant (lbs/day) (lbs/day) ¹			
ROG	229.63	55	
NO _X	18.30	55	
PM_{10}	42.84	82	
 As shown in Table 4.2-6 above, the PCAPCD's thresholds of significance for project-level and cumulative operatinal emissions are identical. <i>Source: CalEEMod, December 2016 (see Appendix D).</i> 			

Mitigation Measure(s)

As shown in Table 4.2-12 below, with implementation of Mitigation Measure 4.2-2, the proposed project's ROG emissions would be reduced from a maximum of 229.63 lbs/day to a maximum of 10.94 lbs/day. Thus, with implementation of Mitigation Measure 4.2-5, the proposed project's emissions of ROG would be below the applicable threshold of significance of 55 lbs/day. Thus, implementation of the following mitigation measure would reduce the above impact to a *less-than-cumulatively-considerable* level.

4.2-5 *Implement Mitigation Measure 4.2-2.*

Table 4.2-12 Maximum Mitigated Project Contribution of Operational Emissions to Cumulative Conditions			
PollutantProject EmissionsPCAPCD SignificancePollutant(lbs/day)(lbs/day)			
ROG 10.94 55			
Source: CalEEMod, December 2016 (see Appendix D).			

4.2-6 Generation of GHG emissions that may have a significant impact on the environment or conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. Based on the analysis below, the impact is *less than cumulatively considerable*.

Buildout of the proposed project would contribute to increases of GHG emissions that are associated with global climate change during construction and operations. The proposed project's short-term construction-related and long-term operational GHG emissions are discussed in further detail below.

Short-Term Construction GHG Emissions

Construction-related GHG emissions are a one-time release and are, therefore, not typically expected to generate a significant contribution to global climate change, as global climate change is inherently a cumulative effect that occurs over a long period of time and is quantified on a yearly basis. Because GHG emissions from construction are temporary in nature and result in only short-term impacts, the PCAPCD uses the bright-line threshold of 10,000 MTCO₂e/yr for the analysis of land use project construction GHG emissions. Project construction was assumed to occur over four consecutive years, with site preparation, grading and paving activity occurring predominantly in the first year of construction, while the construction of the proposed residential units would occur throughout the following three years. CalEEMod calculated that the maximum annual construction-related emissions would occur during the building construction phase of project construction. The maximum annual construction-related GHG emissions that would be associated with buildout of the proposed project are presented in Table 4.2-13. The construction modeling assumptions are described in the Method of Analysis section above.

Table 4.2-13 Maximum Unmitigated Project Construction GHG Emissions		
GHG Emissions (MTCO ₂ e/yr) Threshold of Significa (MTCO ₂ e/yr)		Threshold of Significance (MTCO ₂ e/yr)
Maximum Annual Construction- related GHG Emissions	601.53	10,000
Source: CalEEMod, December 2016 (see Appendix D).		

As shown in the table, the proposed project's maximum annual unmitigated constructionrelated GHG emissions would be below the PCAPCD's bright-line threshold of 10,000 MTCO₂e/yr. All other years of construction would result in GHG emissions below the level of emissions presented in Table 4.2-13. The proposed project's maximum annual unmitigated construction-related GHG emissions would also be below the PCAPCD's 1,100 MTCO₂e/yr screening level threshold of significance. Although the 1,100 MTCO₂e/yr threshold is intended for operational GHG emissions, the threshold represents the emissions level that would be considered less than cumulatively considerable. Because operational GHG emissions would occur each year over the course of the operational lifetime of the project, applying the operational GHG emissions screening level threshold to construction emissions, which would occur temporarily over a much shorter timeframe, could be considered conservative. Because the proposed project's construction-related GHG emissions would be below 1,100 MTCO₂e/yr, the proposed project would not be expected to have a cumulatively considerable contribution to a significant cumulative GHG impact during construction.

Long-Term Operational GHG Emissions

The modeling assumptions for the proposed project's operational GHG emissions are discussed in the Method of Analysis section above. The proposed project's estimated operational GHG emissions at full buildout (2022) are presented in Table 4.2-14.

Table 4.2-14 Unmitigated Project Operational GHG Emissions		
Emission Source GHG Emissions (MTCO ₂ e/yr)		
Area	219.84	
Energy	407.24	
Mobile	978.74	
Solid Waste	67.53	
Water 25.31		
TOTAL ANNUAL GHG EMISSIONS 1,698.66		
Source: CalEEMod, December 2016 (see Appendix D).		

As shown in the table, the proposed project would result in operational GHG emissions in excess of the 1,100 MTCO₂e/yr operational threshold of significance. Accordingly, the project must further be evaluated in comparison with the efficiency thresholds presented in Table 4.2-7. The efficiency thresholds rely on per capita $MTCO_2e/yr$ emissions to determine significance for residential projects in rural or urban settings. In general, urban projects are considered to involve shorter vehicle trips, which would inherently reduce GHG emissions from mobile sources, while rural projects are considered to involve relatively longer vehicle trips and proportionally higher GHG emissions from mobile sources. In recognition of the inherent inequality between mobile source GHG emissions from rural and urban projects, PCAPCD established higher efficiency thresholds for rural projects as compared to urban projects (see Table 4.2-7 above). The PCAPCD directs lead agencies to determine whether a project is considered rural or urban. The proposed project site is located on the eastern edge of the City of Lincoln, which is relatively distant from the City's downtown area, commercial areas, and industrial employment areas. Additionally, the City of Lincoln itself is relatively more rural than other municipalities within the PCAPCD's jurisdiction such as Rocklin or Roseville. Therefore, given the project's location on the outskirts of Lincoln, the City of Lincoln, as lead agency, has determined that the project should be considered to be in a rural area, and as such PCAPCD's rural residential efficiency threshold is the applicable threshold for the proposed project. The proposed project's estimated per capita emissions are presented below in Table 4.2-15 and compared with the applicable PCAPCD efficiency threshold.

As shown in the table, the proposed project would result in operational GHG emissions below the applicable PCAPCD efficiency threshold. Therefore, the proposed project would be considered to result in a *less-than-cumulatively-considerable* operational impact related to GHG emissions and global climate change.

Mitigation Measure(s) None required.

Table 4.2-15 Unmitigated Project Operational GHG Emissions Per Capita		
Project Emissions (MTCO2e/yr/capita) PCAPCD Efficiency Threshold for Rural Residential Projects (MTCO2e/yr/capita)		
4.55 5.5		
Notes: The City of Lincoln's 2013-2021 Housing Element estimates that the average persons per household in the City is 2.59. Using the citywide average, the proposed project's 144 units would generate approximately 373 residents (144 x 2.59 = 372.96). Therefore, the proposed project's estimated GHG emissions of 1,717.59 MTCO ₂ e/yr distributed over the anticipated population of the project of 373 residents would result in GHG emissions of 4.55 MTCO ₂ e/yr/capita (1,698.66 / 373 = 4.55).		

4.3 BIOLOGICAL RESOURCES

DRAFT EIR LINCOLN MEADOWS JULY 2017

BIOLOGICAL RESOURCES

4.3.1 INTRODUCTION

The Biological Resources chapter of the EIR evaluates the biological resources known to occur or potentially occur within the Lincoln Meadows Project (proposed project) site. This chapter describes potential impacts to those resources, and identifies measures to reduce those impacts to less-than-significant levels. Existing plant communities, wetlands, wildlife habitats, and potential for special-status species and communities are discussed for the project area. The information contained in this analysis is primarily based on the *Biological & Wetland Resources Assessment* prepared by Barnett Environmental (see Appendix E),¹ the *Arborist Report and Native Oak Tree Inventory*, prepared by Sierra Nevada Arborists (see Appendix F),² a peer review of the Biological Resources Assessment, prepared by Monk & Associates (see Appendix G),³ and the *Special-Status Plant Survey Update for the McKim Lincoln Meadows Project* prepared by Barnett Environmental (see Appendix F),⁴

4.3.2 EXISTING ENVIRONMENTAL SETTING

The following sections describe the existing environmental setting and biological resources occurring in the proposed project area.

Regional Setting

The City of Lincoln is located within western Placer County, California, and the 43.87-acre project site is located adjacent to the northeastern corner of the City of Lincoln. Most of the City is characterized by gentle westward sloping terrain; however, areas in the eastern portion of the City's planning area can have slopes in excess of 20 percent. The overall climate is hot and semi-arid to subhumid. Normal annual rainfall amounts in the area range between 10 to 25 inches and daytime temperatures from April through October average between 60 and 80 degrees Fahrenheit with low humidity. Drainages and streams in the area eventually connect to the Sacramento River. Vernal pools can be found throughout undeveloped portions of the planning area on Pleistocene-aged alluvial terraces.

¹ Barnett Environmental. *Biological & Wetland Resources Assessment for the McKim Lincoln Meadows (Placer County) Property.* May 5, 2017.

 ² Sierra Nevada Arborists. Arborist Report and Native Oak Tree Inventory, Lincoln Meadows Project Site. October 8, 2014.

³ Monk & Associates. *Peer Review of a Biological Resources Assessment and the U.S. Army Corps of Engineers Wetland Jurisdictional Determination*. April 20, 2016.

⁴ Barnett Environmental. Special-Status Plant Survey Update for the McKim Lincoln Meadows Project. June 14, 2016.

Project Setting

The study area for the biological and wetland resources assessment is the 43.87-acre project site, which includes portions of Virginiatown Road and Hungry Hollow Road, to the northeast of the City of Lincoln. The dominant vegetative cover consists of annual grassland, a single valley oak (*Quercus lobata*) that occurs along the southern boundary, and tree and shrub cover consisting of a very small number of nonnative species including black locust (*Robinia pseudoacacia*) and Himalayan blackberry (*Rubus armeniacus*).

The Nevada Irrigation District's (NID) Lincoln Canal and associated access road bisect the property from east to west, altering the site's natural run-off patterns. A berm along the eastern property boundary is associated with the remnants of an earthen dam that predates the NID canal.

The project site is at approximately 200 feet above mean sea level, within the Auburn Ravine and Markham Ravine watersheds. The southern third of the project site is within the Auburn Ravine watershed, while the northern two-thirds of the project site are within the Markham Ravine watershed. Markham and Auburn Ravines drain westward across western Placer County and eventually join the Sacramento River. Hydrology in the area is mostly dependent on rainfall and local runoff; however, some leakage from the NID canal may have localized effects on the groundwater tables.

Irregular water ponding in the form of vernal pools, combined with small mounding, characterize the site topography. The mounds, measuring between 50 cm to 1.5 meters (approximately 1.5 feet to 4.9 feet) in diameter in the project area (but highly variable in size overall) are known as Mima mounds. While a single theory on the formation of these mounds is not currently accepted by the scientific community, the mounds are often attributed to either wind-driven sediment deposition around vegetation that has since been removed or pocket gopher activity. The Mima mounds are interspersed throughout the entire parcel, but they are particularly concentrated in the southwest quarter. Landscapes characterized by vernal pool depressions and small mounds, such as those found on the project site, are typically referred to as hog-wallow landscapes.

Portions of the property have been subject to illegal off-road vehicle use and illegal dumping. The property has not been grazed for several years, as evidenced by the derelict fencing and high thatch of dried grass or residual dry matter.

On-Site Biological Communities

The San-Joaquin-Cometa soils provide a shallow rooting substrate, which primarily supports grassland vegetation. Where cracks in the below surface duripan or dense clay horizon exist, trees such as valley oaks (*Quercus lobata*) are able to establish, as the trees' roots can access the deeper aquifer.

Annual grasslands are characterized by the presence of non-native annual and biennial grasses and broad-leaved plants that typically undergo frequent disturbance regimes (e.g., discing, grazing, spraying, grading, mowing); perennial plants are largely absent. Dominant nonnative grasses observed on the property included medusahead (*Elymus caput-medusae*), soft chess (*Bromus*

hordeaceus), rip-gut brome (*Bromus diandrus*), slender oat (*Avena barbata*) and hare barley (*Hordeum murinum* spp. *leporinum*). Dominant non-native broad-leaved plants observed include rose clover (*Trifolium hirtum*), hawkbit (*Leontodon saxatilis* ssp. *longirostris*), vetch (*Vicia* sp.), sheep sorrel (*Rumex acetosella*), smooth cat's-ear (*Hypochaeris glabra*) and filaree (*Erodium botrys*).

Commonly observed native forbs (i.e., wildflowers) include a number of monocots such as brodiaea (*Brodiaea* sp.), narrowleaf soap plant (*Chlorogalum angustifolium*), yellow mariposa lily (*Calochortus luteus*), blue dicks (*Dichlostemma* spp.) and hyacinth brodiaea (*Triteleia hyacinthina*). Other native forbs observed include Spanish clover (*Acmispon americanus* var. *americanus*), royal larkspur (*Delphinium variegatum* ssp. *variegatum*), purple navarretia (*Navarretia pubescens*) and purple clarkia (*Clarkia purpurea*). The only native grass observed in moderate frequency and distribution throughout the annual grasslands was small fescue (*Festuca microstachys*).

A number of low-gradient swale features exist throughout the property. The swale features are largely dominated by various species of graminoids (i.e., grasses and grass-like plants), including medusahead, perennial rye grass (*Festuca perennis*), rattail fescue (*Festuca myuros*), little rattlesnake grass (*Briza minor*), Mediterranean barley (*Hordeum marinum* ssp. gussoneanum), annual bluegrass (*Poa annua*), common spikerush (*Eleocharis macrostachya*), leafybract dwarf rush (*Juncus capitatus*) and toad rush (*Juncus* sp.). Native and non-native broad-leaved plants include hawkbit, coyote-thistle (*Eryngium* sp.), Carter's buttercup (Ranunculus bonariensis var. trisepalus), hairy purslane speedwell (*Veronica peregrina* ssp. *halapensis*), white meadowfoam (*Limnanthes alba* spp. *alba*), little hop-clover (*Trifolium dubium*), English plantain (*Plantago lanceolata*) and various species of dock (*Rumex* sp.).

A number of vernal pools occur throughout the project site. While the majority of them are shallow and pond water for only short periods during the rainy season, nearly all support vegetative assemblages that contain a number of hydrophytic species considered either endemic (i.e., restricted) or strongly allied to this habitat type. Hydrophytic graminoids observed include common spikerush, leafybract dwarf rush, toad rush, medusahead, Mediterranean barley, low manna grass (*Glyceria declinata*), silver hairgrass (*Aira caryophyllea*), and annual hairgrass (*Deschampsia danthanioides*); forbs observed included coyote-thistle, Carter's buttercup, white meadowfoam, hyssop loosestrife (*Lythrum hyssopifolia*), stalked popcornflower (*Plagiobothrys stipitatus* var. *micranthus*), whiteheaded navarretia (*Navarretia leucocephala* ssp. *leucocephala*), calicoflower (*Downingia* sp.), Fremont's goldfields (*Lasthenia fremontii*), woollyheads (*Psilocharpus* sp.), Sacramento mesamint (*Pogogyne zizyphoroides*), vernal pool Indian paintbrush (*Castilleja campestris* ssp. *campestris*), and bractless hedgehyssop (*Gratiola ebracteata*).

Annual grasslands associated with the vernal pool formations on the site are classified as vernal pool grassland. Many animal species found in annual grasslands are also found in the vernal pool grasslands, though some species found in vernal pools and vernal pool grasslands have adapted to specific conditions and are only found in these cover types and some of these species may use only these habitats during particular vernal pool stages, while others can be found year-round.

Examples of wildlife species that use annual grasslands as habitat include western meadowlark, horned lark, lark sparrow, savannah sparrow, lesser goldfinch, mourning dove, and other grassland

species. In addition, a few bird species such as western meadowlark and lark sparrow may nest in the non-native annual grassland. Rodents and reptiles in the grasslands may attract red-tailed hawk, red-shouldered hawk, northern harrier, white-tailed kite, American kestrel, great horned owl, coyote, fox, and other predators. Mammals such as mule deer, striped skunk, Virginia opossum, raccoon, ground squirrel, pocket gopher, mole, black-tailed jackrabbit, vole, and deer mice may utilize the grassland habitat. Characteristic reptiles of grassland habitat include western fence lizard, western rattlesnake, gopher snake, western skink, southern alligator lizard, and common garter snake.

Additionally, vernal pools provide habitats for a wide variety of aquatic invertebrates including the water flea (Daphnia spp.), predaceous diving beetle (Coleoptera: Dytiscidae), backswimmer (Heteroptera: Notonectidae), and water boatman (Heteroptera: Corixidae). Aquatic crustaceans known as branchiopods have adapted to rely almost exclusively on the unique hydrology of vernal pools. Species of branchiopods potentially found within the project area and/or vicinity include clam shrimp (Cyzicus spp.), California linderiella (Linderiella occidentalis), the federally-listed conservancy fairy shrimp (Branchinecta conservatio), vernal pool fairy shrimp (Branchinecta lynchi), and vernal pool tadpole shrimp (Lepidurus packardi). The aforementioned branchiopod species, as well as two species of snail, occur in vernal pools year-round, surviving the drought period, buried in the mud in cyst form. Vernal pool invertebrates and vertebrates provide highprotein food sources for birds (especially important for migrating species such as Canada geese). While representing a food source for birds, birds also represent a means of dispersal for branchiopods, which can be transported with migrating birds over short and long distances. The dispersal of seeds and eggs is key to maintaining genetic diversity within populations. The exact nature of the relationship between mammals and vernal pools has not been documented, but some evidence is available that shows that smaller species such as rabbits could spread seeds and eggs.

Unique ecological relationships exist between vernal pool associated flora and fauna, and vernal pools and their adjacent grasslands contain certain elements required in the life cycle of several species of amphibians, birds, and mammals.

Jurisdictional Wetlands and Other Waters of the United States

Waters of the United States (U.S.), including wetlands, are broadly defined under 33 Code of Federal Regulations (CFR) 328 to include navigable waterways, tributaries of navigable waterways, and adjacent wetlands. State and federal agencies regulate these habitats, and Section 404 of the Clean Water Act (CWA) requires that a permit be secured prior to the discharge of dredged or fill materials into any waters of the U.S., including wetlands. Both the California Department of Fish and Wildlife (CDFW) and the U.S. Army Corps of Engineers (USACE) have jurisdiction over modifications to riverbanks, lakes, stream channels, and other wetland features. In addition, jurisdictional waters of the U.S. can be defined by exhibiting a defined bed and bank and ordinary high water mark (OHWM). The OHWM is defined by the USACE as "[...] that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." (33 CFR §328.3[e])

Although definitions vary to some degree, wetlands are generally considered to be areas that are periodically or permanently inundated by surface water or groundwater, supporting vegetation

adapted to life in saturated soil. Jurisdictional wetlands are vegetated areas that meet specific vegetation, soil, and hydrologic criteria defined by the USACE Wetlands Delineation Manual (USACE, 1987). Primarily, the USACE establishes two distinctions: wetland and non-wetland waters of the U.S. Non-wetland waters are commonly referred to as "other waters of the U.S." Waters of the U.S. are drainage features or water bodies as described in 33 CFR 328.4. The USACE holds sole authority to determine the jurisdictional status of waters of the U.S., including wetlands. Jurisdictional wetlands and waters of the U.S. include, but are not limited to, perennial and intermittent creeks and drainages, lakes, seeps, and springs; emergent marshes; riparian wetlands; and seasonal wetlands. Wetlands and waters of the U.S. provide critical habitat components, such as nest sites and a reliable source of water for a wide variety of wildlife species.

Barnett Environmental mapped a total of approximately 1.39 acres of wetland features, including approximately 0.62 acre of vernal pools and 0.30 acre of seasonal wetlands. Additionally, 0.47 acre of the Lincoln Canal and ditches along Virginiatown Road and Hungry Hollow Road were included in the total wetland acreage of the project site (see Table 4.3-1 and Figure 4.3-1). Barnett Environmental further concluded that Waters of the State are not present on the project site.⁵

Table 4.3-1 Existing On-site Wetlands and Other Waters of the U.S.			
Wetland Type	Area (square feet)	Area (Acres)	
	Inside Delineated Boundary ¹		
Seasonal Wetland	10,418	0.242	
Vernal Pool	26,434	0.606	
Canal	14,247	0.327	
Subtotal	51,099	1.175	
	Outside Delineated Boundary²		
Ditch	2,616	0.060	
Seasonal Wetland	2,724	0.062	
Vernal Pool	418	0.009	
Canal	3,749	0.086	
Subtotal	9,507	0.217	
Grand Total	60,606	1.392	

Notes:

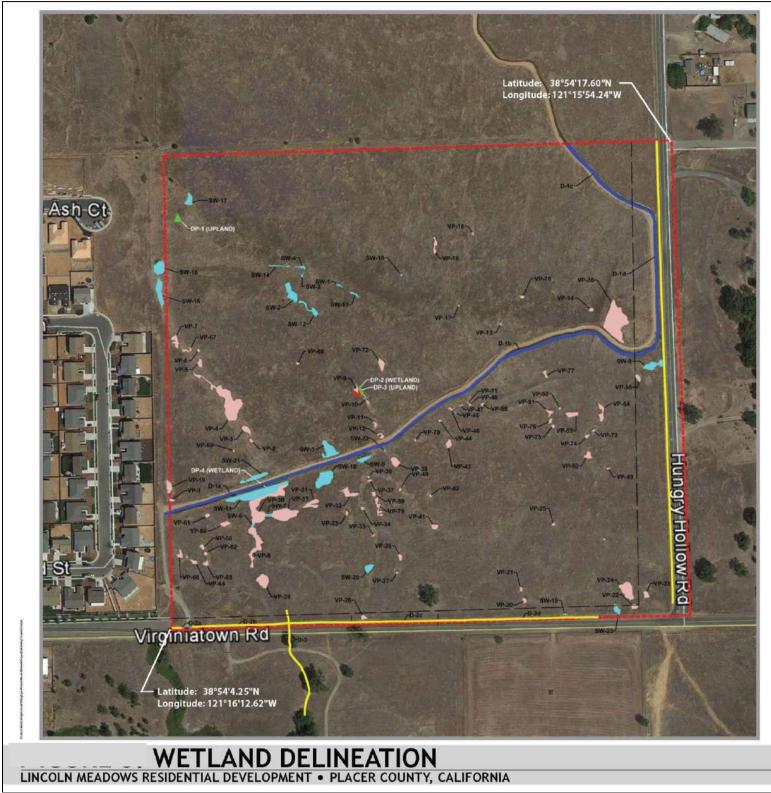
Inside Delineated Boundary refers to the 40-acre tentative map portion of the site (see Figure 4.3-1), which was originally delineated by Barnett Environmental, and subsequently verified by the USACE in the August 27, 2015 *Wetland Delineation Verification* letter.

² Outside Delineated Boundary refers to the 3.7-acre portion of the site, outside the tentative map area (see Figure 4.3-1), which was not originally included in the Barnett Environmental wetland delineation, and thus has not yet been verified by the USACE.

Source: Barnett Environmental. Biological & Wetland Resources Assessment for the McKim Lincoln Meadows (Placer County) Property. May 5, 2017.

⁵ Barnett, Bruce D, Ph.D., Barnett Environmental. Personal Communication [email] Nick Pappani, Vice President Raney Planning & Management. April 21, 2017.

Figure 4.3-1 Wetlands and Other Waters of the U.S.



Plan Scale: 1" = 100' @ 42x30 SheeSize

Source: Barnett Environmental. Biological & Wetland Resources Assessment for the McKim Lincoln Meadows (Placer County) Property. May 5, 2017.

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Legend

_	Permitted Area
_	Verified Delineation Boundary
-	Canal
	Ditch (Verified, 2015)
	Seasonal Wetland (Verified, 2015)
	Vernal Pool (Verified, 2015)
1	Upland Data Point
	Wetland Data Point

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			bruary 20, 2017	

Seasonal Wetlands

The seasonal wetlands on the project site are located adjacent to the Lincoln Canal and result from impounded water behind, and potential leakage from, the earthen canal levees. Lateral movement of water across the top of the duripan or clay horizon of the on-site soils is also a potential source of local groundwater enhancement.

Soils in the seasonal wetlands had a depleted matrix with oxidation mottling, which are signs of inundation. Additionally, during a mid-December field survey, standing water was observed in the seasonal wetland basins after light rains. The upland boundary of the seasonal wetlands is sharply marked by the levee bank and upland plant species or transition to vernal pool type drainages. The seasonal wetland basins are marked by a topographic break of one to two inches, where the ponded water ends.

The seasonal wetlands on the project site were dominated by perennial plant species more common to freshwater marsh habitats, such as water smartweed (*Polygonum persicaria*), curly dock (*Rumex crispus*), lamp rush (*Juncus effusus*), dallis grass (*Paspalum dilatatum*), and willow herb (*Epilobium ciliatum*). Seasonal wetlands dominated by perennial rye-grass (*Lolium perenne*) with some irisleaf rush (*Juncus xiphioides*) and mountain rush (*Juncus arcticus*) were also mapped in drainage swales that connect individual vernal pools, and still other seasonal wetlands occur as remnants of a larger Freshwater emergent wetland mapped by the U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory (NWI) in 1985. The upland portions of the site were dominated by annual plant species, primarily medusa head grass.

Barnett Environmental's review of historic aerial photography of the project site identified a persistent contraction of the wetland mapped in 1985 into the downstream portions of the watershed. Although the cause of the contraction is unknown, the pattern of wetland contraction is consistent with lower rainfall years and higher transpiration of the ungrazed land. In addition, if water in the wetlands had originated from leaks in the Lincoln Canal, subsequent improvements to the canal could have reduced the water supply to the wetlands and lead to the observed contraction.

Vernal Pools

In contrast to the seasonal wetlands located on the project site, the vegetation in the on-site vernal pools is generally characterized by native annual plants. While most of the vernal pool habitat on the project site has been overgrown with seaside barley (*Hordeum marinum*) and English Rye grass (*Lolium perenne*), some central areas of the vernal depressions are deep enough to sustain more typical vernal pool species such as popcorn flower (*Plagiobothrys sp.*), wooly marbles (*Psilocarphus sp.*), coyote thistle (*Eryngium alismifolium*), navarretia (*Navarretia sp.*), and annual hairgrass (*Deschampsia danthonioides*). Vernal pools form in depressions that are either isolated or connected by wetland swales. The pools on the project site developed within the natural landscape of the San Joaquin-Cometa complex and are linked along shallow drainages, but isolated on drainage divides. Most show some level of disturbance, off-road vehicle tracks, historic furrows from cultivation, or other sources of disturbance during the rainy season.

Nevada Irrigation District Lincoln Canal

The man-made open irrigation canal averages 12 feet in width and bisects the property. The canal enters the northeast corner of the site and parallels Hungry Hollow Road before turning west across the center of the parcel. Because the canal does not continuously follow the watershed divide, portions of the canal are banked with five-foot-wide levees on top of lateral clay horizons, making seasonal leakage from May through October possible. The levees also result in ponding of local runoff on the upland side of the levees.

Special-Status Species

Special-status species are species that have been listed as "threatened" or "endangered" under the Federal Endangered Species Act (FESA), California Endangered Species Act (CESA), or are of special concern to federal resource agencies, the State, or private conservation organizations. A species may be considered special-status due to declining populations, vulnerability to habitat change, or restricted distributions. A description of the criteria and laws pertaining to special-status classifications is described below.

Special-status plant species may meet one or more of the following criteria:

- Plants listed or proposed for listing as threatened or endangered under the FESA (50 CFR 17.12 for listed plants and various notices in the Federal Register for proposed species);
- Plants that are candidates for possible future listing as threatened or endangered under the FESA (64 FR 205, October 25, 1999; 57533-57547);
- Plants listed or proposed for listing by the State of California as threatened or endangered under the CESA (14 California Code of Regulations [CCR] 670.5);
- Plants that meet the definitions of rare or endangered species under the California Environmental Quality Act (CEQA) (CEQA Guidelines, Section 15380); or
- Plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered" in California (Lists 1A, 1B, and 2 species in CNPS [2001]).

Special-status wildlife species may meet one or more of the following criteria:

- Wildlife listed or proposed for listing as threatened or endangered under the FESA (50 CFR 17.11 for listed wildlife and various notices in the Federal Register for proposed species);
- Wildlife listed or proposed for listing by the State of California as threatened and endangered under the CESA (14 CCR 670.5);
- Wildlife that meet the definitions of rare or endangered species under the California Environmental Quality Act (CEQA Guidelines, Section 15380);
- Wildlife species of special concern to the California Department of Fish and Wildlife (CDFW) (Remsen [1978] for birds; Williams [1986] for mammals); and/or
- Wildlife species that are fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

Several species of plants and animals within the State of California have low populations, limited distributions, or both. Such species may be considered "rare" and are vulnerable to extirpation as the State's human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described below, State and federal laws have provided the CDFW and the USFWS with a mechanism for conserving and protecting the diversity of plant and animal species native to the State. A number of native plants and animals have been formally designated as threatened or endangered under State and federal endangered species legislation. Others have been designated as "candidates" for such listing. Still others have been designated as "species of special concern" by the CDFW. In addition, the CNPS has developed a set of lists of native plants are referred to as "special-status species."

Special-Status Plants

Based on the location of the project site and the habitats present on-site, six special-status plant species – Boggs lake hedge-hyssop (*Gratiola heterosepala*), dwarf downingia (*Downingia pusilla*), Ahart's dwarf rush (*Juncus leiospermus var. ahartii*), big-scale balsamroot (*Balsamorhiza macrolepis*), pincushion navarretia (*Navarretia myersii ssp. myersii*), and legenere (*Legenere limosa*) – could potentially occur within the proposed project area.⁶ Information including common and scientific name, habitat requirements, and an assessment of potential for occurrence within the project area are detailed in Table 4.3-2 below. The evaluation of the potential for occurrence of each species is based on the distribution of regional occurrences (if any), habitat suitability of the site, and field observations.

Potentials for occurrence within the study area were assigned according to the following categories:

- *Present*: The species is known to occur on-site, based on CNDDB records and/or detection on-site during field surveys.
- *High*: The site supports suitable habitat for the species and the species is known to occur within close proximity to the study area (from CNDDB records), *or* the species is expected to occur on-site or nearby based on professional judgment regarding species requirements and site characteristics, with suitable habitat for the species on-site.
- *Moderate:* The species is known from records within the vicinity of the project site but only moderately suitable habitat occurs within the study area.
- *Low*: The species is known to occur in the project vicinity, but the project site provides only marginal habitat, *or* although suitable habitat is present, the species is not known to occur in the project vicinity.
- *None*: Suitable habitat for the species does not occur within the study area.

As shown in Table 4.3-2 below, all six of the special-status plant species included in the table below have at least a low to moderate potential to occur on site. Special-status plant species were not observed within or adjacent to the Lincoln Meadows Study Area during Barnett Environmental's comprehensive protocol-level floristic survey conducted on April 30, 2016. The

⁶ Barnett Environmental. Special-Status Survey Update for the McKim Lincoln Meadows Project. June 14, 2016.

results are consistent with the CNDDB and the CNPS research indicating in no previously documented occurrences of special-status plant species within or adjacent to the project site. According to the CNDDB results, the nearest special-status species occurrence is of the pincushion navarretia (*Navarretia myersii ssp. myersii*), located 1.3 miles west of the project site.

Table 4.3-2 Special-Status Plants with Potential to Occur within Project Area						
Common and Scientific Name	Fed / State / CNPS Status ¹	Habitat Requirements	Potential for Occurrence			
Boggs lake hedge- hyssop Gratiola heterosepala	/ CE / 1B.2	Freshwater marshes, swamps, or vernal pools associated with clay soils, while usually found in vernal pools species also present in some lake margins, found between 32 and 7,800 feet.	Moderate: Vernal pool with associated clay soils exist on- site, and CNDDB records an occurrence less than 2.5 miles to the northwest. Species was not detected during on-site, protocol-level plant survey.			
Dwarf downingia Downingia pusilla	/ / 2B.2	Mesic sites in valley and foothill grasslands, vernal lake and pool margins between 3 and 1,460 feet.	Moderate: Suitable habitat on site and CNDDB records northwest of City of Lincoln. Species was not detected during on-site protocol-level plant survey.			
Ahart's dwarf rush Juncus leiospermus var. ahartii	/ / 1B.2	Valley and foothill grassland, restricted to the edges of vernal pools in grasslands between 100 and 330 feet.	Moderate: Suitable habitat on site and CNDDB records occurrences less than 3.5 miles to the west. Species was not detected during on-site protocol-level plant survey.			
Big-scale balsamroot Balsamorhiza macrolepis	/ / 1B.2	Chaparral, cismontane woodland, and valley and foothill grasslands, sometimes on serpentine soils at elevations between 295 and 5,100 feet.	Low: Suitable grassland habitat on site, but serpentine soil does not exist on-site and most recent CNDDB occurrence in vicinity of Lincoln from 1939. Species was not detected during on- site protocol-level plant survey.			
Pincushion navarretia Navarretia myersii ssp. myersii	/ / 1B.1	Vernal pools with clay soils within non-native grasslands between 150 and 330 feet.	Moderate: Appropriate habitat on-site and CNDDB records occurrences in the vicinity of the City of Lincoln. Species was not detected during on- site protocol-level plant survey.			

(Continued on next page)

Table 4.3-2 Special-Status Plants with Potential to Occur within Project Area							
Legenere Legenere limosa	/ / 1B.1	In beds of vernal pools and wetlands between 3 and 2,900 feet.	Low: Appropriate habitat occurs on-site, CNDDB records one occurrence approximately four miles southwest of the site and two other occurrences six miles south. Species was not detected during on-site, protocol level plant survey.				
 Notes: ¹ CE = California Endangered; CR = California Rare CNPS = California Native Plant Society Rank 1B = Rare, threatened, or endangered in California and elsewhere Rank 2 = Rare, threatened, or endangered in California, but more common elsewhere CNPS Threat Rank Extensions: .1 = Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat) .2 = Fairly endangered in California (20 to 80% of occurrences threatened) .3 = Not very endangered in California (less than 20% of occurrences threatened or no current threats known) 							
Source: Barnett Envir 14, 2016.	onmental. Speci	al-Status Plant Survey Update for the McH	Kim Lincoln Meadows Project. June				

Each of the species with low to moderate potential to occur on the project site are discussed in further detail below.

Boggs lake hedge-hyssop

Boggs lake hedge-hyssop is listed as endangered pursuant to CESA and is designated as a CE 1B.2. The species is a small, semi-aquatic, herbaceous annual that occurs on clay soils in vernal pools, marshes, and swamps of lake margins. Boggs lake hedge-hyssop blooms from April through August and is known to occur at elevations ranging from 32 feet above mean sea level (MSL) to 7,792 feet above MSL. The current range of this species in California includes Fresno, Lake, Lassen, Madera, Merced, Modoc, Placer, Sacramento, Shasta, Siskiyou, San Joaquin, Solano, and Tehama counties. The on-site vernal pools and seasonal wetlands on the project site would be considered suitable habitat for the species. Boggs lake hedge-hyssop was not observed during a protocol-level rare plant survey conducted by Barnett Environmental on April 30, 2016. The CNDDB records an occurrence of the species within 2.5 miles of the project site.⁷

 ⁷ Barnett Environmental. Special-Status Plant Survey Update for the McKim Lincoln Meadows Project. June 14, 2016.

Dwarf downingia

The dwarf downingia is designated as a CNPS 2B.2 species. Dwarf downingia is a small herbaceous annual that occurs in vernal pools and mesic areas in valley and foothill grasslands. The species also appears to have an affinity for slight disturbance as the species has been found in man-made features such as tire ruts, scraped depressions, stock ponds, and roadside ditches. This species blooms from March through May and is known to occur at elevations ranging from three to 1,460 feet above MSL. The current range of this species in California includes Amador, Fresno, Merced, Napa, Placer, Sacramento, San Joaquin, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties. The on-site vernal pools and seasonal wetlands on the project site would be considered suitable habitat for the species. Dwarf downingia was not observed during a protocol-level rare plant survey conducted by Barnett Environmental on April 30, 2016. The CNDDB records occurrences of the species northwest of the City of Lincoln.⁸

Ahart's dwarf rush

Ahart's dwarf rush is designated as a 1B.2 species. The species is an herbaceous annual that occurs in areas with a moderate or well-balanced moisture content in valley and foothill grasslands. Ahart's dwarf rush may have an affinity for slight disturbance because it has been found on farmed fields and gopher turnings. Ahart's dwarf rush blooms from March through May and is known to occur at elevations ranging from 98 to 751 feet above MSL. Ahart's dwarf rush is endemic to California; the current range of this species includes Butte, Calaveras, Placer, Sacramento, Tehama, and Yuba counties. The on-site vernal pools and seasonal wetlands on the project site would be considered suitable habitat for the species. Ahart's dwarf rush was not observed during a protocol-level rare plant survey conducted by Barnett Environmental on April 30, 2016. The CNDDB records occurrences of the species within 3.5 miles of the project site.⁹

Big-scale Balsamroot

The big-scale balsamroot is not listed pursuant to either FESA or CESA, but is designated as a California Rare Plant Rank 1B.2. The species is an herbaceous perennial that occurs in chaparral, cismontane woodlands, valley and foothill grasslands, and occasionally on serpentine soils. The big-scale balsamroot blooms from March through June and is known to occur at elevations ranging from 295 to 5,100 feet above MSL. The big-scale balsamroot is endemic to California; the current range of this species includes Alameda, Amador, Butte, Colusa, El Dorado, Lake, Mariposa, Napa, Placer, Santa Clara, Shasta, Solano, Sonoma, Tehama, Tuolumne counties. The annual grassland on the project site would be considered suitable habitat for the species. Big-scale Balsamroot was not observed during a protocol-level rare plant survey conducted by Barnett Environmental on April 30, 2016. The most recent CNDDB records occurrences of the species in the vicinity of Lincoln was recorded in 1939.¹⁰

⁸ Barnett Environmental. Special-Status Plant Survey Update for the McKim Lincoln Meadows Project. June 14, 2016.

⁹ Ibid.

 $^{^{10}}$ Ibid.

Pincushion navarretia

Pincushion navarretia is not listed pursuant to either FESA or CESA, but is designated as a 1B.1 species. The species is an herbaceous annual that occurs in vernal pools that are often acidic. Pincushion navarretia blooms in April through May and is known to occur at elevations ranging from 65 to 1,082 feet above MSL. Pincushion navarretia is endemic to California; the current range of this species includes Amador, Calaveras, Merced, Placer, and Sacramento counties. The on-site vernal pools and seasonal wetlands on the project site would be considered suitable habitat for the species. Pincushion navarretia was not observed during a protocol-level rare plant survey conducted by Barnett Environmental on April 30, 2016. The CNDDB records occurrences of the species within 1.3 miles of the project site.¹¹

Legenere

Legenere is designated as a California rare and fairly endangered 1B.1 species. The species is an herbaceous annual that occurs in a variety of seasonally inundated environments including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages. Legenere blooms from April through June and is known to occur at elevations ranging from three to 2,624 feet above MSL. Legenere is endemic to California; the current range of this species includes Alameda, Lake, Monterey, Napa, Placer, Sacramento, Santa Clara, San Joaquin, Shasta, San Mateo, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties and is believed to be extinct in Stanislaus County. The on-site vernal pools and seasonal wetlands on the project site would be considered suitable habitat for the species. Legenere was not observed during a protocollevel rare plant survey conducted by Barnett Environmental on April 30, 2016. The CNDDB records occurrences of the species within four miles of the project site.¹²

Special-Status Wildlife

The queries of the CNDDB species lists show that one insect, three invertebrates, three amphibians and reptiles, seven birds, and two mammals have the potential to occur in the vicinity of the project site. Information including common and scientific name, habitat requirements, and an assessment of potential for occurrence within the project area are detailed in Table 4.3-3. The evaluation of the potential for occurrence of each species is based on the distribution of regional occurrences (if any), habitat suitability of the site, and field observations.

As shown in Table 4.3-3, a total of eight special-status wildlife species have low to moderate potential to occur on-site, and one species has a high potential to occur. The project site is not considered suitable habitat for any special-status species of mammals, and three out of four reptiles or amphibians due to the lack of necessary habitat features, and the lack of reported occurrences of the species in question. Because the project site does not contain suitable habitat for any mammals, and four of the five aforementioned reptiles or amphibians, such species will not be

¹¹ Barnett Environmental. Special-Status Plant Survey Update for the McKim Lincoln Meadows Project. June 14, 2016.

¹² *Ibid*.

discussed further within this EIR. The species that do have potential to occur on-site are discussed in further detail below.

Table 4.3-3			
Special-Status Wildlife with Potential to Occur within Project Area			
Common and Scientific Name	Fed / State Status ¹	Habitat Requirements	Potential for Occurrence
	Butus	Insects	I otential for Occurrence
Valley elderberry longhorn beetle Desmocerus californicus dimorphus	FT /	Riparian and oak woodlands. Requires the presence of blue elderberry shrubs.	None: Host plant (elderberry) not observed on or near the Study Area.
		Invertebrates	
Conservancy fairy shrimp Branchinecta conservatio	FE /	Endemic to the grasslands of the northern two-thirds of the Central Valley in large pools or swales.	Low: The Study Area does contain vernal pools; however, recorded occurrences within the Study Area or within two miles of the project site do not exist.
Vernal pool fairy shrimp Branchinecta lynchi	FE /	Valley and foothill grasslands and vernal pools. Inhabit small, clear- water sandstone-depression pools and grassed swale, earth slump, or basalt- flow depression pools.	High: Study Area consists of several vernal pools that have the potential to provide suitable habitat for this species. CNDDB has recorded occurrences within five miles of the project area. Field surveys of the project site in 2003, 2006, and 2015 identified occurrences of the species within the project site.
Vernal pool tadpole shrimp <i>Lepidurus</i> packardi	FT /	Valley and foothill grassland and vernal pools commonly found in grass bottomed swales of unplowed grasslands in the Sacramento Valley containing clear to highly turbid water.	Low: The Study Area does contain vernal pools; however, recorded occurrences within study area or within two miles of the project site do not exist.
Amphibians and Reptiles			
Giant garter snake Thamnophis gigas	FT / CT	Prefers freshwater marsh, gradient streams, swamp, and riparian scrub. Has adapted to drainage canals and irrigation ditches.	High: The Study Area does contain a canal which could be potentially suitable habitat. However, occurrences are not recorded within five miles of the Study Area.

(Continued on next page)

Table 4.3-3			
Special-Status Wildlife with Potential to Occur within Project Area			
Common and Scientific Name	Fed / State Status ¹	Habitat Requirements	Potential for Occurrence
Sierra Nevada yellow-legged frog <i>Rana sierrae</i>	FE / CT	Ephemeral stream with small pools within forest of yellow pine and incense cedar.	None: Project site lacks suitable habitat (i.e., deep water). Tadpoles may require 2-4 years to complete their aquatic development. Not detected on-site; no records within two miles.
California red- legged frog <i>Rana draytonii</i>	FT /SSC	Prefers lowlands and foothills in or near permanent sources of deep water with dense shrubby or emergent vegetation.	None: Project site lacks suitable habitat (i.e. deep water). Requires 11-20 weeks of permanent water for larval development. Not detected on-site; no records within two miles.
Western spadefoot toad Spea hammondii	/	Found in grasslands, scrub, chaparral, and oak woodlands within the central valley.	Low: Grasslands and riparian woodlands habitat is found within the Study Area. However, occurrences within five miles of the Study Area not recorded.
Northwestern pond turtle Actinemys marmorata marmoratta	/ SSC	Aquatic turtle found in ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6,000 feet elevation.	None: Site does not contain requisite perennial waters.
		Birds	
Swainson's hawk Buteo swainsoni	/ CT	Great Basin grassland, riparian forest and woodlands, valley and foothill grassland. Breeds in grasslands with scattered trees, juniper-sage flats, savannahs, and agricultural or ranch lands with groves or lines of trees.	Moderate: Study Area contains potential habitat such as agricultural land and scattered oaks. Swainson's hawks were not observed during the survey. A focused study during the breeding period would be needed to determine their presence; such a study is required by Mitigation Measure 4.3-5(a) of this EIR.
Willow flycatcher Empidonax traillii	/ CE	Inhabits extensive thickets or low, dense willows on edge of wet meadows, ponds, or backwaters.	None: Project site lacks potential suitable habitat (i.e., wet meadows, ponds, or backwaters) and dense

Table 4.3-3 Special-Status Wildlife with Potential to Occur within Project Area			
Common and Scientific Name	Fed / State Status ¹	Habitat Requirements	Potential for Occurrence
			willow thickets for nesting/roosting. Not detected on-site; no records within two miles.
Bald eagle Haliaeetus leucocephalus	/ CE	Ocean shore, lake margins, rivers, and lower montane coniferous forest.	None: Bald eagles nest within one mile of water. Rivers or water bodies not present within the project site. CNDDB does not include recorded occurrences within two miles of the Study Area.
California black rail Laterallus jamaicensis coturniculus	/ CT	Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays.	None: Lacks suitable habitat (i.e., freshwater marshes, wet meadows, and salt marshes). Not detected on-site; no records within two miles.
Burrowing owl Athene cunicularia	/ SSC	Open, dry annual or perennial grasslands characterized by low- growing vegetation.	Low: Site lacks burrows used by owl for nesting; however, habitat suitable for foraging, and if burrowing mammal activity occurs, site would become suitable.
Bank swallow <i>Riparia riparia</i>	/ CT	Riparian scrub and woodland. Requires vertical banks/cliffs with fine textured/sandy soils near streams, rivers, lakes, ocean to dig nesting holes.	None: Requires open water and vertical banks/cliffs. Lacks suitable nesting substrate (i.e., sandy soils) to dig nesting holes. Not detected on-site; no records within two miles.
Song sparrow (Modesto Population) <i>Melospiza melodia</i>	/ SSC	Open habitat including marsh edges, overgrown fields, desert washes, and forest edges.	Low: The Study area contains the required open grassland foraging habitat, though the species was not observed during field surveys. The CNDDB has no recorded occurrences within 5 miles of the Study Area.
Purple martin Progne subis	/ SSC	Inhabits woodlands, broadleaved upland forests, low elevation coniferous forest of Douglas-fir, ponderosa pine, and/or Monterey Pine	None: Requires woodlands, coniferous forests, eaves of buildings or bridges; thus

(Continued on next page)

Table 4.3-3			
Speci Common and Scientific Name	al-Status Wi Fed / State Status ¹	Idlife with Potential to Occur within Habitat Requirements	1 Project Area Potential for Occurrence
		forest. Species also uses human-made structures such as eaves of buildings and bridges.	suitable habitat not present on project site.
Tricolored blackbird Agelaius tricolor	/ SSC	Colonial species, which requires freshwater marsh, swamps, or wetlands, with open water, and protected nesting substrate. Nests in tules, bulrushes and willows at edge of water.	None: Himalayan blackberry was only identified on the site during surveys in small patches near the roadside ditches. Given these wetlands are ephemeral and do not hold water year-round, the blackberry patches would not provide suitable habitat, as tricolored black bird prefers larger perennial wetlands such as marshes.
White-tailed kite Elanus leucurus	/ FP	Open grassland, meadows, and farmlands. Nests in tall trees near foraging areas.	Low: The Study area contains the required open grassland foraging habitat, though the species was not observed during field surveys. The CNDDB has, however, documented a single species occurrence approximately five miles south east of the Study Area.
		Mammals	
Sierra Nevada red fox Vulpes Vulpes nector	/ CT	Inhabits a variety of habitats such as alpine, alpine dwarf scrub, broadleaved upland forest, meadows, and seeps.	None: Lacks potential suitable habitat. Prefers rocky areas for cover and den sites. Additionally, they favor forest interspersed with meadows or alpine fell-fields. Species was not observed during the biological assessment.
California wolverine Gulo gulo	/ CT	Found in the north coast mountains and the Sierra Nevada. Inhabits a wide variety of high elevation habitats such as alpine, alpine and montane dwarf scrub, meadows, and seeps.	None: Lacks potential suitable habitat. Needs water source. Uses caves, logs, burrows for cover and den areas. California wolverine species was not observed during the biological assessment.

Table 4.3-3			
Special-Status Wildlife with Potential to Occur within Project Area			
Common and	Fed / State		
Scientific Name	Status ¹	Habitat Requirements	Potential for Occurrence
Townsend's big- eared bat Corynorhinus townsendii	/ SSC	Inhabits broadleaved upland forests, chaparral, coniferous forests, riparian woodlands, as well as valley and foothill grasslands. Roosts in the open, hanging from walls or ceilings, sensitive to human disturbances.	None: Appropriate roosting habitat such as buildings or other human structures absent from the project site.
 Notes: ¹ FT = Federally Threatened; FE = Federally Endangered; FC = Federal Candidate; FD = Federally Delisted CE = California Endangered; CR = California Rare; CT = California Threatened; SSC = Species of Special Concern; FP = Fully Protected Source: Barnett Environmental. Biological & Wetland Resources Assessment for the McKim Lincoln Meadows (Placer County) Property. February 28, 2017. 			

Conservancy fairy shrimp

The Conservancy fairy shrimp (*Branchinecta conservatio*) is listed as endangered by the USFWS. The Conservancy fairy shrimp species ranges in size from half an inch to an inch. Individuals have elongated bodies, large staked compound eyes, no carapaces, and eleven pairs of swimming legs. Conservancy fairy shrimp inhabit large cool-water vernal pools throughout large portions of the Central Valley, and southern coastal regions of California. Their diet is comprised of algae, bacteria, protozoa, rotifers, and detritus. Females carry their eggs in a ventral brood sac. Eggs are either dropped to the pool bottom or remain in the broad sac until the mother dies and sinks. When the pool dries out, so do the eggs.

The Conservancy fairy shrimp, and other branchiopod species, survive the drought period buried in the mud in cyst form. When vernal pools refill, and the Conservancy fairy shrimp eggs are hydrated, some, but not all, of the eggs may hatch within a week of the pool refilling. Average time of maturity is 49 days and as low as 19 days in warmer water temperatures. Vernal pool invertebrates provide high-protein food sources for various bird species, including migratory species. Conservancy fairy shrimp eggs can be consumed and passed undamaged through the digestive tract of foraging birds, which take flight to other aquatic environments where the eggs may be deposited, thereby inoculating new sites. Eggs can also be carried away in mud attached to the feathers or feet of birds and grazing animals, which offers the opportunity for long distance transport before the mud is washed off in another aquatic environment. Therefore, birds and mammals play an important role in maintaining genetic diversity of the Conservancy fairy shrimp, and dispersing the species to new pools.

Field surveys of the project site were performed by Foothill Environmental and ECORP in 2003 and 2006, respectively, to determine the presence or absence of Conservancy fairy shrimp. Additionally, Helm Biological Consulting performed field surveys of the project site in February of 2015. None of the aforementioned field studies observed any occurrences of Conservancy fairy

shrimp at the project site. In addition, results of a CNDDB search did not reveal recorded occurrences of conservancy fairy shrimp within two miles of the project site.¹³

Vernal Pool Tadpole Shrimp

The vernal pool tadpole shrimp (Lepidurus packaradi) is listed as endangered by the USFWS. Occurrences of the species are typically in deeper vernal pools with clear-to-turbid water. Their eggs are drought-tolerant cysts that hatch within three weeks of a pool or swale filling with water. The adults reach approximately five centimeters and mature around day 38 and are able to reproduce at day 54. The new eggs encyst and bury themselves in the muddy soil. Similar to the Conservancy fairy shrimp, the vernal pool tadpole shrimp may be dispersed between vernal pools by birds or mammals. Helm Biological Consulting (July 2015) found twelve seasonal wetlands and one depression within the Study Area that could potentially provide suitable habitat for tadpole shrimp, but are unlikely to do so as this species has an extremely low occurrence rate in Placer County. The nearest occurrence is located over six miles from the Study Area (at northwest corner of Dowd Road and Moore Road - McClellan Air Force Base Lincoln Communication Facility) and is not hydrologically connected (CNDDB 2015). Vernal pool tadpole shrimp were also recorded in Roseville in 1995, within a constructed vernal pool resulting from inoculum of cysts at the Woodcreek Golf Club. Vernal pool tadpole shrimp were not observed during Foothill 2003 and ECORP 2006 surveys, nor the field surveys conducted in February and July 2015. In addition, results of a CNDDB search did not reveal recorded occurrences of tadpole shrimp within two miles of the project site.¹⁴

Vernal Pool Fairy Shrimp

The Vernal pool fairy shrimp (*Branchinecta lynchi*) is listed as threatened by the USFWS. The species ranges in size from 0.43 to 0.98 inches and occurs in vernal pools, seasonal wetlands and wetland swales through most of the Central Valley to Tulare County. The habitats can be grass- or mud-bottomed, with clear to tea-colored water, and can be underlain by claypan or basalt-flow hardpan in grasslands. Vernal pool fairy shrimp have a lifespan of two months, from January to early March. Females lay drought resistant eggs that embed into the soil and hatch the next winter when the pools refill. Similar to the Conservancy fairy shrimp, the vernal pool fairy shrimp may be dispersed between vernal pools by birds or mammals. The presence of vernal pool fairy shrimp was documented within the Study Area during both the Foothill 2003 and ECORP 2006 surveys. Helm Biological Consulting also found presences of this species within one basin (VP 71) during its wet-season sampling in February 2015. The CNDDB query revealed two recorded occurrences of fairy shrimp within a two-mile radius of the Study Area.

¹³ Barnett Environmental. *Biological & Wetland Resources Assessment for the McKim Lincoln Meadows (Placer County) Property.* May 5, 2017.

¹⁴ Barnett Environmental. Biological & Wetland Resources Assessment for the McKim Lincoln Meadows (Placer County) Property. May 5, 2017.

Western Spadefoot

The western spadefoot (*Spea hammondii*) is not federally and state listed but is considered to be a CDFW species of special concern. The western spadefoot has relatively smooth skin that is green or grey in color with orange tipped skin tubercles and a white abdomen. The species has a distinctive wedge-shaped black spade on each hind foot. Adults range in size from 1.5 inches to three inches long. The western spadefoot prefers grasslands, scrub and chaparral within the Central Valley but can also occur in oak woodland. Western spadefoot diets consists of mainly plants, planktonic organisms, and insects such as algae, small invertebrates, moths, grasshoppers, flies, ground beetles, and ants. Reproduction occurs from late winter to the end of March where the females lay numerous, irregular clusters that contain from 10 up to 42 eggs. Eggs hatch in six to 21 days and become adults by week 12 of metamorphosis. Western spadefoots were not observed during the biological surveys conducted in August 2015 by Barnett Environmental. The CNDDB results did not reveal recorded occurrences of western spadefoot within five miles of the project area.¹⁵

Giant Garter Snake

The giant garter snake (*Thamnophis gigas*) is a federally-listed threatened species found from sea level to about 160 feet of elevation in perennial waters or their immediate environs, but will also inhabit temporary water such as sloughs, irrigation canals, drainage ditches, and flooded rice fields. The species shows a preference for the slower-flowing sloughs that are not found along major rivers. Giant garter snake habitat is typically devoid of a dense tree canopy and usually contains tule, cattail, blackberry, mustard, various thistles and annual and perennial grasses (CNDDB 2007). Individuals of the species are typically observed above ground from April until October and spend the remainder of the year in underground winter burrows. By April 15 most of the snakes are actively foraging. The diet of the giant garter snakes consists of aquatic prey such as fish, amphibians, and of introduced species such as carp, mosquitofish, and bullfrogs. By early October, foraging is sporadic and dependent on good weather and most giant garter snakes are underground by the first of November, where they remain until spring. Breeding occurs soon after emergence in the spring and females bear live young from July through early September. Giant garter snakes are typically diurnal, although they have occasionally been observed feeding during evening hours. During the spring, juvenile giant garter snakes are frequently active in the morning, while adults are most often seen basking during midday and the afternoon. Giant garter snakes were not observed in Foothill 2003 and ECORP 2006 surveys or during the field survey conducted by Barnett Environmental biologists in August 2015. The CNDDB does not contain recorded occurrences of the species within five miles of the Study Area.¹⁶

Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*) is a California threatened species. The Swainson's hawks are large (1.75 to two pounds), broad-winged birds-of-prey (raptor) that frequent open country.

¹⁵ Barnett Environmental. *Biological & Wetland Resources Assessment for the McKim Lincoln Meadows (Placer County) Property.* May 5, 2017.

¹⁶ *Ibid*.

The species is a long-distance migrator that nests in the Central Valley from March 1 to September 15 and over-winters in Mexico or South America. Swainson's hawks forage almost exclusively in agricultural row-crops and grasslands. The Swainson's hawk's favored prey is voles and small rodents that are more readily available in suitable densities on agricultural lands. Unlike some other local raptors, urban areas or dense vegetation do not provide suitable foraging habitat for this hawk. The combination of valley oak trees and suitable agricultural foraging habitat make Sacramento, Yolo, and San Joaquin counties high-quality habitat for this species. Sacramento County seems to be particularly suitable habitat, as an estimated 100 pairs nest within the county. Swainson's hawks are monogamous and actively nest from March through July. Nests of twigs and grasses are constructed in isolated trees or bushes, shelterbelts, riparian groves, or abandoned homesteads, approximately nine to 15 feet above the ground in cottonwood, poplar, oak and the occasional pine tree in the Central Valley. The incubation period is 34 to 35 days, with fledging at about 38 to 46 days. Swainson's hawks were not observed during Foothill 2003 and ECORP 2006 surveys, as well as the field survey conducted in August 2015 by Barnett Environmental. A CNDDB query did not reveal documented occurrences of Swainson's hawk within a two-mile radius of the Study Area.¹⁷

Burrowing Owl

The burrowing owl (*Athene cunicularia*) is a California species of special concern. Burrowing owls are between 7.5 and 9.8 inches long and weigh approximately 5.3 ounces. Unlike most owl species, burrowing owls nest and forage on the ground. Burrowing owls eat invertebrates and small vertebrates, but their diet mainly consists of insects. Burrows can be used year-round or seasonally, depending on the migratory behavior, and are typically excavated by mammals and later used by the burrowing owls. Female burrowing owls lay between two and 12 eggs per clutch before incubating the eggs for 28 to 30 days. Western burrowing owls were not observed during Foothill 2003 or ECORP 2006 surveys, nor during the field survey conducted by Barnett Environmental in August 2015, during which no burrows suitable for nesting habitat were found. A CNDDB query did not reveal documented occurrences of burrowing owls within a five-mile radius of the Study Area.¹⁸

Song Sparrow

The Modesto population of song sparrow (*Melospiza melodia*) is not federally listed but is a California state listed species of concern. The song sparrow is a medium-size and fairly bulky sparrow with russet and grey coloring. The Modesto population of song sparrow has thick brown streaks on its white chest and flanks. The species has a short, stout bill with a fairly rounded head, and a long and rounded tail with broad wings. The Modesto population of song sparrow species can be found in a variety of habitats, including tidal marshes, arctic grasslands, desert scrub, pinyon pine forests, aspen parklands, chaparral, agricultural fields, overgrown pastures, freshwater marshes, lake and forest edges, and suburbs. Song sparrows diet consists mainly of fruits and seed, as well as, a variety of invertebrates in the summer. Nests are typically found hidden in grasses or

¹⁷ Barnett Environmental. Biological & Wetland Resources Assessment for the McKim Lincoln Meadows (Placer County) Property. May 5, 2017.

¹⁸ *Ibid*.

weeds, sometimes placed on the ground and occasionally as high as 15 feet. The nests are typically four to eight inches wide and two to four inches deep in the shape of a cup made out of loose grasses, weeds, bark, and animal hair. Females usually lay one to six eggs per clutch with an incubation period of 12 to 15 days. Song sparrows were not observed by Barnett Environmental biologists. The CNDDB does not have recorded occurrences of song sparrows within five miles of the project site.¹⁹

White Tailed Kite

The California fully protected white-tailed kite (*Elanus leucurus*) is a medium-sized raptor (12 to 15 inches long) with long, narrow, pointed wings and a long white tail. The outer portion of the top of the wings is grey with a black inner portion. White-tailed kites have a white face and underside with exception of a black spot on the inner portion of each of its wings. Additionally, white-tailed kites have yellow feet and red eyes. Their diet consists of mainly small mammals, as well as some birds, lizards, and insects. White-tailed kites are commonly found in savanna, open woodlands, marshes, desert grasslands, partially cleared lands, and cultivated fields. Nests are typically found in the upper third of trees found in the open country growing in isolation or at the edge of or within a forest that range in size from ten to160 feet tall. White-tailed kite nests take the form of a shallow bowl made mostly of small twigs and lined with grass, hay, or leaves. Females usually lay four eggs per clutch with an incubation period of 30 to 32 days. While CNDDB contains a single white-tailed kite occurrence located approximately five miles southeast of the project area, white-tailed kites were not observed during the biological assessment conducted in December and August 2015.²⁰

Migratory Birds

The project site provides habitat for several migratory birds protected under the federal Migratory Bird Treaty Act (MBTA). Common migratory birds that may use the on-site habitat include but are not limited to: brewer's blackbird (*Euphagus cyanocephalus*), bushtit (*Psaltriparus minimus*), dark-eyed junco (*Junco hyemalis*), house finch (*Carpodacus mexicanus*), lesser goldfinch (*Carduelis psaltria*), Say's phoebe (*Sayornis saya*), scrub jay (*Aphelocoma caerulescens*), western meadowlark (*Sturnella neglecta*), and white-crowned sparrow (*Zonotrichia leucophrys*).

Some of the above-listed birds, as well as other migratory species, have the potential to nest onsite within existing grassland and shrub cover habitats.

Trees

One large tree was identified on the project site by Sierra Nevada Arborists; however, several other small, nonnative trees exist on-site that were not included in the Arborist's report and are not regulated under the City Municipal Code. The large tree is a valley oak (*Quercus lobata*) with a diameter at breast height of 33 inches. The condition of the tree's root crown, trunk, limbs, foliage,

¹⁹ *Ibid*.

²⁰ Barnett Environmental. Biological & Wetland Resources Assessment for the McKim Lincoln Meadows (Placer County) Property. May 5, 2017.

structure and vigor were all noted to be fair.²¹ Because the tree is a valley oak, the tree is subject to Section 18.69 of the City's Municipal Code. In addition to the valley oak, small nonnative species scattered throughout the site include black locust (*Robinia pseudoacacia*) and Himalayan blackberry (*Rubus armeniacus*).

4.3.3 REGULATORY CONTEXT

A number of federal, State, and local policies provide the regulatory framework that guides the protection of biological resources. The following discussion summarizes those laws that are most relevant to biological resources in the vicinity of the project site.

Federal Regulations

The following are the federal environmental laws and policies relevant to biological resources.

Federal Endangered Species Act

The primary focus of the FESA, of 1973 is that all federal agencies must seek to conserve threatened and endangered species through their actions. FESA has been amended several times in the past to correct perceived and real shortcomings. FESA contains three key sections. Section 4 (16 USCA §1533) outlines the procedure for listing endangered plants and wildlife. Section 7 (§1536) imposes limits on the actions of federal agencies that might impact listed species. Section 9 (§1538) prohibits the "taking" of a listed species by anyone, including private individuals, and State and local agencies. In the case of salt water fish and other marine organisms, the requirements of FESA are enforced by the National Marine Fisheries Service (NMFS). The USFWS enforces all other cases. Sections 7, 9, and 10 of FESA are discussed below because they are the three sections most relevant to the proposed project.

Section 9 of FESA as amended, prohibits the take of any fish or wildlife species listed under FESA as endangered. Under federal regulation, take of fish or wildlife species listed as threatened is prohibited unless otherwise specifically authorized by regulation. "Take," as defined by FESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." "Harm" includes not only the direct taking of a species itself, but the destruction or modification of the species' habitat resulting in the potential injury of the species. As such, "harm" is further defined to mean "an act which actually kills or injures wildlife; such an act may include significant habitat modification or degradation where wildlife is actually killed or injured by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR 17.3).

Section 9 applies not only to federal agencies but to any local or State agency, and to any individual as well. If take of a listed species is necessary to complete an otherwise lawful activity, which triggers the need for consultation under Section 7 of FESA (for federal agencies and projects with a federal "nexus" (that is, an authorized, funded or carried out by a federal agency)), or requires

²¹ Sierra Nevada Arborists. Arborist Report and Native Oak Tree Inventory, Lincoln Meadows Project Site. October 8, 2014.

preparation of a Habitat Conservation Plan (HCP) pursuant to Section 10 of FESA (for state and local agencies, or individuals, and projects without a federal "nexus").

Section 7(a)(2) of FESA requires that each federal agency shall, in consultation with and with the assistance of the USFWS, insure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of critical habitat. Critical habitat identifies specific areas, both occupied and unoccupied, that are essential to the conservation of a listed species and that may require special management considerations or protection. Section 4 of FESA requires USFWS to consider economic and other relevant impacts of specifying any particular area as critical habitat.

Federal actions include permitting, funding, and entitlements for both federal projects, as well as private projects facilitated by federal actions (for example, a private landowner applying to the USACE for a permit). As an example, if a federally listed endangered species is present in "waters of the United States" on a project site, prior to authorizing impacts to "waters of the United States," the USACE (who administers the Clean Water Act) would be required to initiate "formal consultation" with USFWS pursuant to Section 7 of FESA. As part of the formal consultation, the USFWS would then be required to prepare a Biological Opinion based on a review and analysis of the project applicant's avoidance and mitigation plan. The Biological Opinion will either state that the project will or will not result in take or threaten the continued existence of the species (not just that population). If an endangered species could be harmed by a proposed project, USFWS has to be in complete concurrence with the proposed avoidance and mitigation plan. If USFWS is not in complete concurrence with the mitigation plan, it would submit a Biological Opinion to the USACE containing a "jeopardy decision" and state that a USACE permit should not be issued for the pending project. The applicant would then have an opportunity to submit a revised mitigation plan that provides greater protection for the species.

In the 1982 amendments to FESA, Congress established a provision in Section 10 that allows for the "incidental take" of endangered and threatened species of wildlife by non-federal entities (for example, project applicants, state and local agencies). "Incidental take" is defined by FESA as take that is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." Under Section 10 of FESA, the applicant for an "incidental take permit" is required to submit a "conservation plan" to USFWS or NMFS that specifies, among other things, the impacts that are likely to result from the taking, and the measures the permit applicant would undertake to minimize and mitigate such impacts, and the funding that would be available to implement those steps. Conservation plans under FESA have come to be known as "habitat conservation plans" or "HCPs" for short. The terms incidental take permit, Section 10 permit, and Section 10(a)(1)(B) permit are used interchangeably by USFWS. Section 10(a)(2)(B) of FESA provides statutory criteria that must be satisfied before an incidental take permit can be issued.

Migratory Bird Treaty Act (MBTA)

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of state and federal laws. The federal MBTA prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior. Section 3503.5 of

the California Fish and Game Code states, "It is unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

Clean Water Act (CWA)

The USACE regulates discharge of dredged or fill material into waters of the U.S. under Section 404 of the CWA. "Discharge of fill material" is defined as the addition of fill material into waters of the U.S., including but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and sub-aqueous utility lines (33 CFR §328.2[f]). In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR §328.3[b]).

Jurisdictional waters of the U.S. are defined by exhibiting a defined bed and bank and OHWM. The OHWM is defined by the USACE as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (33 CFR §328.3[e]).

State Regulations

The following are the State environmental laws and policies relevant to biological resources.

California Endangered Species Act

The State of California enacted the CESA in 1984. The CESA is similar to the FESA but pertains to State-listed endangered and threatened species. CESA requires State agencies to consult with the CDFW when preparing CEQA documents to ensure that the State lead agency actions do not jeopardize the existence of listed species. CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur, and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. Agencies can approve a project that affects a listed species if they determine that "overriding considerations" exist; however, the agencies are prohibited from approving projects that would result in the extinction of a listed species.

The CESA prohibits the taking of State-listed endangered or threatened plant and wildlife species. CDFW exercises authority over mitigation projects involving State-listed species, including those resulting from CEQA mitigation requirements. CDFW may authorize taking if an approved habitat management plan or management agreement that avoids or compensates for possible jeopardy is implemented. CDFW requires preparation of mitigation plans in accordance with published guidelines.

The CDFW exercises jurisdiction over wetland and riparian resources associated with rivers, streams, and lakes under California Fish and Game Code Sections 1600 to 1607. The CDFW has the authority to regulate work that will substantially divert, obstruct, or change the natural flow of a river, stream, or lake; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed.

In addition, CDFW enforces the Fish and Game Code of California, which provides protection for "fully protected birds" (§3511), "fully protected mammals" (§4700), "fully protected reptiles and amphibians" (§5050), and "fully protected fish" (§5515). The CCR Title 14 prohibits the take of Protected amphibians (Chapter 5, §41), Protected reptiles (Chapter 5, §42) and Protected furbearers (Chapter 5, §460). The CESA, which prohibits 'take' of State-listed Endangered or Threatened species, is also enforced by CDFW.

Waters of the State

Waters of the State, including wetlands, are considered sensitive biological resources and fall under the jurisdiction of the CDFW and California's Regional Water Quality Control Boards (RWQCBs).

The CDFW exercises jurisdiction over wetland and riparian resources associated with rivers, streams, and lakes under California Fish and Game Code Section 1600 to 1616. The CDFW has the authority to regulate work that will substantially divert, obstruct, or change the natural flow of a river, stream, or lake; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed. CDFW's jurisdictional area along a river, stream or creek is usually bounded by the top-of-bank or the outermost edges of riparian vegetation. Typical activities regulated by CDFW under Section 1600-1616 authority include installing outfalls, stabilizing banks, implementing flood control projects, constructing river and stream crossings, diverting water, damming streams, gravel mining, and logging.

Regional Water Quality Control Board

Pursuant to Section 401 of the CWA and EPA 404(b)(1) guidelines, in order for a USACE federal permit applicant to conduct any activity that may result in discharge into navigable waters, it must provide a certification from the RWQCB that such discharge will comply with the State water quality standards. The RWQCB has a policy of no-net-loss of wetlands in effect and typically requires mitigation for all impacts to wetlands before the RWQCB will issue water quality certification.

Under the Porter-Cologne Water Quality Control Act (Cal. Water Code Section 13000-14920), the RWQCB is authorized to regulate the discharge of waste that could affect the quality of the State's waters. Therefore, even if a project does not require a federal permit (i.e., a Nationwide Permit [NWP] from the USACE), the project may still require review and approval of the RWQCB, in light of the approval of new NWPs on March 9, 2000 and the Supreme Court's decision in the case of the Solid Waste Agency of Northern Cook County (SWANCC) vs. USACE. The RWQCB in response to this, issued guidance for regulation of discharges to "isolated" water on June 25, 2004. The guidance states:

Discharges subject to Clean Water Act section 404 receive a level of regulatory review and protection by the USACE and are also subject to streambed alteration agreements issued by the CDFW; whereas discharges to waters of the State subject to SWANCC receive no federal oversight and usually fall out of CDFW jurisdiction. Absent of RWQCB attention, such discharges will generally go entirely unregulated. Therefore, to the extent that staffing constraints require the RWQCB to regulate some dredge and fill discharges of similar extent, severity, and permanence to federally-protected waters of similar value. Dredging, filling, or excavation of "isolated" waters constitutes a discharge of waste to waters of the State, and prospective dischargers are required to submit a report of waste discharge to the RWQCB and comply with other requirements of Porter-Cologne.

When reviewing applications, the RWQCB focuses on ensuring that projects do not adversely affect the "beneficial uses" associated with waters of the State. Generally, the RWQCB defines beneficial uses to include all of the resources, services and qualities of aquatic ecosystems and underground aquifers that benefit the State. In most cases, the RWQCB seeks to protect these beneficial uses by requiring the integration of water quality control measures into projects that will result in discharge into waters of the State. For most construction projects, RWQCB requires the use of construction and post-construction Best Management Practices (BMPs). In many cases, proper use of BMPs, including bioengineering detention ponds, grassy swales, sand filters, modified roof techniques, drains, and other features, will speed project permitting through RWQCB. Development setbacks from creeks are also requested by RWQCB as they often lead to less creek-related impacts in the future.

California Native Plant Society

CNPS maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Plants of California. Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. The following identifies the definitions of the CNPS listings:

List 1A:	Plants believed extinct.
List 1B:	Plants rare, threatened, or endangered in California and elsewhere.
List 2:	Plants rare, threatened, or endangered in California, but more numerous
	elsewhere.
List 3:	Plants about which we need more information - a review list.
List 4:	Plants of limited distribution - a watch list.

Local Regulations

The following are the local environmental laws and policies relevant to biological resources.

City of Lincoln General Plan

Chapter 6, General Plan Policy Consistency, identifies adopted General Plan policies that are relevant to the evaluation of biological resources and an evaluation of consistency with those policies. No inconsistencies with the General Plan policies are identified. However, while City staff has done its best to ascertain consistency, the Lincoln City Council makes the ultimate decision regarding consistency with the General Plan.

Placer County Conservation Plan

The draft Placer County Conservation Plan (PCCP) was released in 2011, which proposes a streamlined strategy and permitting process for a range of covered activities in western Placer County for the next 50 years. The First Agency Review Draft PCCP establishes a conservation reserve area to protect and conserve special-status species and natural communities. The area covers approximately 212,000 acres, including important biological communities in western Placer County. The PCCP would function as both a Habitat Conservation Plan (HCP) under the FESA, and a Natural Community Conservation Plan (NCCP) under the California Natural community conservation planning Act. The PCCP would be focused on a landscape-level planning would also help to avoid piece-meal, project-level mitigation, which can result in isolated habitat areas and disrupted broad-scale ecological processes. Conservation efforts within the PCCP would be focused both on special-status species, and on habitat types, allowing for direct impacts to special-status species as well as habitat loss associated with development. Although the PCCP will be focused on protecting habitats and individual species, the PCCP is not anticipated to cover

The project site is located within the boundaries of the draft PCCP. The mitigation and conservation protocols that are applied through the PCCP are an equal to or greater functional equivalent mitigation standard for biological resources that are represented in this EIR.

City of Lincoln Oak Tree Preservation

Chapter 18.69 of the City of Lincoln's Municipal Code regulates the preservation of oak trees in the City. The City has determined that the natural beauty, soil erosion control, property value enhancement, air quality improvements, wind protection, noise abatement, water absorption, and shade provided by oak trees constitute substantial benefits to the health and welfare of the citizens of Lincoln. As such, the City may establish guidelines for the preservation of oak trees, and once such guidelines are established, the guidelines must be used when reviewing applications for projects including, but not limited to rezonings, subdivision maps, parcel maps, development permits, conditional use permits, design review board approvals, and variances. Conditions of approval may be imposed on such applications consistent with the City's guidelines. If an oak tree

is removed or irrevocably harmed due to a project, the City may require replacement, the payment of fees, or other remedies as described in section 18.69.030 of the City's Municipal Code.

4.3.4 IMPACTS AND MITIGATION MEASURES

This section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to biological resources.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, and professional judgment, a significant impact would occur if the proposed project would result in the following:

- 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 CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- 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;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or State habitat conservation plan.

Issues Not Discussed Further

As discussed in the Initial Study prepared for the proposed project (see Appendix C), the proposed project is located within the planning boundaries of the PCCP. However, the proposed project site is located within an area of future growth within the plan, and the project site is not designated as an area proposed for future preservation. As such, because the PCCP is not currently adopted and the proposed project is not located in an area designated for future preservation, the Initial Study prepared for the proposed project concluded that the project would result in no impact related to the following:

• Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or State habitat conservation plan.

Accordingly, impacts related to the above are not further analyzed or discussed in this EIR chapter.

Method of Analysis

The information contained in this analysis is primarily based on the *Biological & Wetland Resources Assessment* and the *Special-Status Plant Survey Update for the McKim Lincoln Meadows Project* prepared by Barnett Environmental, the *Peer Review of a Biological Resources Assessment and the U.S. Army Corps of Engineers Wetland Jurisdictional Determination*, prepared by Monk & Associates, and the *Arborist Report and Native Oak Tree Inventory* prepared by Sierra Nevada Arborists.

Biological & Wetlands Resources Assessment

The *Biological & Wetlands Resources Assessment* prepared by Barnett Environmental represents an update to the following previously prepared biological reports completed for the proposed project site:

- ECORP Consulting, Inc. Wetland Delineation. 2003;
- Foothill Associates. *Biological Assessment*. 2003; and
- ECORP Consulting, Inc. Biological Assessment. 2006.

The above-listed documents were reviewed to ascertain the previously established biological baseline. A record search of the CNDDB was completed by Barnett Environmental in 2015 in order to list all documented sightings of special-status species within the United States Geologic Survey Lincoln 7.5-minute quadrangle map. Additionally, Barnett Environmental reviewed the full special-status species list for Placer County maintained by the USFWS.

In addition, Barnett Environmental contracted Helm Biological Consulting to conduct wet samplings for threatened or endangered large branchiopods (e.g. vernal pool fairy shrimp and vernal pool tadpole shrimp). Wet sampling was conducted on February 19, 2014. Helm Biological Consulting conducted the wet sampling with prior authorization of the USFWS, and under permit TE-795930-8 of Section 10(a)(1)(A) of the federal Endangered Species Act, 16 U.S.C. 1531 et seq., and its implementing regulations. Areas of the project site deemed to be potential branchiopod habitat, and thus sampled by Helm Biological Consulting, were those areas where an average of at least two inches of water ponded for a length of at least 14 consecutive days for fairy shrimp and 30 or more consecutive days for tadpole shrimp. All areas of the project site with the potential to support federally-listed large branchiopods were sampled.

Biologists with Barnett Environmental surveyed the project area on December 3, 4, and 9 of 2014 as well as August 27, 2015 and April 30, 2016. During each survey, the entire site was traversed on foot, with observations recorded for dominant plant communities, plant and animal species, observed signs, and the suitability of habitat types on site and on the adjoining areas.

Special-Status Plant Survey

On April 30, 2016, Barnett Environmental performed a protocol-level special-status plant survey in accordance with USFWS, CDFW, and CNPS guidelines. Many of the special-status plant species associated with vernal pools are annual or short-lived perennials; as such, the special-status plant survey was performed during the optimal blooming period for the listed special-status plant species with the potential to occur within the project site. The protocol-level survey included a pedestrian survey of the entire project site, with observations recorded of any plant species encountered as well as the suitability of habitat types on-site and in the adjoining areas.

Delineation of Waters of the United States

As part of the Delineation of Waters of the U.S., Barnett Environmental reviewed available information pertaining to the natural resources of the region. Pertinent site-specific reports and general references utilized concurrent with the delineation include the following:

- Environmental Laboratory (1987) *Corps of Engineers Wetlands Delineation Manual*. USACE Waterways Experiment Station. Vicksburg, MS;
- Army Corps of Engineers. *Regional supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0).* September 2008.
- Army Corps of Engineers: Regulatory Branch of the Sacramento District. *Minimum Standards for Acceptance of Preliminary Wetlands Delineations*. November 2015.
- Hickman, J.C. (ed.). *The Jepson Manual: Higher Plants of California*. University of California Press. 2012 National List. 1993.
- Lichvar, R.W. *The National Wetland Plant List*. ERDC/CRREL TR-2-11. Hanover, NH. U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory. 2012.
- U.S. Fish and Wildlife Service. *National Wetlands Inventory Website*. Available at http://www.fws.gov/wetlands/. May 1987.
- U.S. Department of Natural Resource Conservation Service. *Web Soil Survey*. http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed January 16, 2014.

The wetland delineation utilized the USACE 1987 three-parameter (vegetation, hydrology, and soils) methodology to delineate jurisdictional waters of the U.S., focusing specifically on jurisdictional wetlands. The USACE methodology requires the collection of data on soils, vegetation, and hydrology at several locations to establish the jurisdictional boundary of wetlands. Biologists for the Lincoln Meadows project visually inspected the entire site and collected data on vegetation, soils, and site hydrology. Drainages and other features were mapped using a Trimble GeoXH_{TM} with sub-meter accuracy. The perimeter of all features encountered during the field survey was walked to determine their limits.

Barnett Environmental submitted a request for jurisdictional determination to the Sacramento District of the USACE on July 28, 2015. In a letter dated August 27, 2015, the Sacramento District of the USACE verified Barnett Environmental's delineation.²² However, at the time of USACE

²² Unites States Army Corps of Engineers, Sacramento Division. Wetland Delineation Verification Letter. August 27, 2015.

verification, the project site did not include the portion of Hungry Hollow Road that is now included in the annexation area for the proposed project. The Hungry Hollow Road area includes wetland areas associated with a roadside drainage ditch and the Lincoln Canal; the amount of wetland features included in the Hungry Hollow Road annexation portion of the project site has been estimated by Barnett Environmental, but the estimated area has not yet been verified by the USACE.

It should be noted that improvements to existing storm water outfalls that could impact jurisdictional waters would not be required as part of the proposed project. The 1.1-acre post-project southwest shed, shown in Figure 4.6-2 of the Hydrology and Water Quality Chapter, would continue to drain to the drain inlet (DI) in Virginiatown Road, which was built as part of Lincoln Highlands. A 12-inch reinforced concrete pipe exits this DI, crosses under Virginiatown Road and daylights into a swale that drains into Auburn Ravine.

The 0.7-acre post-project southeastern shed currently drains to a culvert under Hungry Hollow Road, which daylights into a swale that drains into Auburn Ravine. The developed southeast shed would consist of Lot D (Open Space), pavement widening and landscape corridor for Hungry Hollow Road. A filter DI would be installed to treat the road runoff; and a replacement pipe exiting the DI would be installed in the same location as the existing culvert. Rip rap at the end of the pipe would provide dissipation.

The south outfall currently connects to a single drain pipe under Virginiatown Road and conveys flows from the project site into Auburn Ravine. Under the post-project condition, the south outfall would convey treated runoff from the proposed south detention basin. The project would replace the single drain pipe under Virginiatown Road with three, 15-inch pipes, which would daylight in the ditch south of Virginiatown Road, as does the current pipe.

The north outfall is a wide, shallow, natural ground swale that eventually drains into the Upper Tributary of Markham Ravine, approximately 1,500 feet northwest of Lincoln Meadows. Treated runoff water from the proposed north detention basin would be discharged via a basin outlet structure and drain overland to this swale. No improvements would occur to the swale.

Tree Inventory

In 2014, Sierra Nevada Arborists prepared an *Arborist Report and Native Oak Tree Inventory* for the proposed project site. On October 8, 2014, Sierra Nevada Arborists visited the project site to perform a field reconnaissance. The reconnaissance effort was meant to identify, inventory, and comment upon the current structure and vigor of any tree considered "protected" under the City of Lincoln's Oak Tree Preservation Guidelines. The Guidelines define a protected tree as any living oak with a diameter at breast height of six inches or more or an aggregate diameter of ten inches or more for a multi-trunked oak.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts related to biological resources is based on implementation of the proposed project in comparison to existing conditions and the standards of significance presented above.

4.3-1 Impacts to special-status plant species. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As noted previously, six species have the potential to occur on the project site: Boggs lake hedge-hyssop, dwarf downingia, Ahart's dwarf rush, big-scale balsamroot, pincushion navarretia, and legenere. Because the aforementioned species associate with vernal pools, and numerous vernal pools exist on-site, the proposed project site is considered to be suitable habitat for all six species.

Due to the potential occurrence of the six special-status plant species in on-site vernal pools, Barnett Environmental performed a special-status plant species survey on April 30, 2016.²³ The timing of the survey was important, as April is considered an optimal blooming period for the listed special-status plant species, and thus the timing of the survey provided the greatest likelihood that special-status plants, if present, would be identified.²⁴ During the survey, biologists from Barnett Environmental traversed the entire project area on foot, and recorded observations of plant species and the suitability of habitat types on adjoining areas.

The results of the pedestrian survey completed in April 2016 are consistent with the results of a previous survey performed by ECORP in 2006, which concluded that special-status plants were not present on the project site or in areas adjacent to the project site. Additionally, the results of the survey are consistent with the results of the CNDDB, which did not identify any previously documented occurrences of special-status plants on the project site.²⁵ Notwithstanding the absence of special-status plants, because the vernal pools on the project site provide marginal habitat for Boggs lake hedge-hyssop, dwarf downingia, Ahart's dwarf rush, big-scale balsamroot, pincushion navarretia, and legenere, there is a remote possibility that special-status plant species could eventually be dispersed to the project site prior to construction. The USFWS considers protocol-level plant surveys to be valid for three years. If construction of the proposed project does not occur within the next three years, construction activity could impact special-status plant species that have colonized the project site. Therefore, the proposed project could result in a *significant* impact related to the disturbance of special-status plant species.

²³ Barnett Environmental. Special-Status Plant Survey Update for the McKim Lincoln Meadows Project. June 14, 2016.

²⁴ Monk & Associates. Peer Review of a Biological Resources Assessment and the U.S. Army Corps of Engineers Wetland Jurisdictional Determination. April 20, 2016.

²⁵ Barnett Environmental. Special-Status Plant Survey Update for the McKim Lincoln Meadows Project. June 14, 2016.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level by ensuring that if construction commences after 2019, the project site would be re-surveyed and, if special-status plant species are detected, proper mitigation implemented to protect any special-status plants that have colonized the project site.

4.3-1(a) Protocol-level special-status plant surveys were conducted at the project site on April 30, 2016 and no special-status plant species were identified. Survey results are valid for three years. If construction does not commence before April 2019, then new focused plant surveys shall be performed according to CDFW and CNPS protocol. If special-status plant species are not found during focused surveys, then further mitigation is not necessary.

> If special-status plant species are found during future surveys, those individuals or populations shall be avoided to the maximum degree possible. If avoidance is not feasible, a mitigation plan shall be developed in consultation with CDFW personnel if it is a state listed (i.e., protected pursuant to the CESA) or a California Native Plant Society (CNPS) Rank 1B or Rank 2 plant.

> If the plant is state listed, an "incidental take" permit (i.e., a 2081 Agreement) shall be acquired for the project from CDFW prior to any grading within the project area. A copy of this permit shall be provided to the appropriate department within the City prior to any grading within the project area. Any conditions for the project established by CDFW in the 2081 Agreement shall become conditions of the project also enforceable by the City.

> If a plant is found on the project site that is a CNPS Rank 1B or 2 species, and the species is not otherwise protected pursuant to state or federal regulations, prior to construction within the project area, a qualified botanist shall collect the seeds, propagules, and top soils, or other part of the plant that would ensure successful replanting of the population elsewhere. The seeds, propagules, or other plantable portion of all plants shall be collected at the appropriate time of the year. Half of the seeds and top soils collected shall be appropriately stored in long-term storage at a botanic garden or museum (for example, Rancho Santa Ana Botanic Garden). The other half of the seeds, propagules, or other plantable portion of all plants shall be planted at the appropriate time of year (late-fall months) in an area of the subject property or off-site, protected property that will not be impacted by the project (if the project has a designated offsite mitigation site for impacts on other special-status species, the plants can be seeded on the mitigation site). This area shall be fenced with permanent fencing (for example, chain link fencing or post and cable fencing) to ensure protection of the species. The applicant shall hire a

qualified biologist to conduct annual monitoring surveys of the transplanted plant population for a five-year period and shall prepare annual monitoring reports reporting the success or failure of the transplanting effort. These reports shall be submitted to the City no later than December 1st each monitoring year.

These steps shall be implemented prior to site disturbance. If the seeding/transplanting effort fails, the stored seeds and top soils can be taken out of long-term storage and sown in another location (either onsite or offsite) deemed suitable by the City and CDFW. This seeding effort shall then be monitored for an additional three-year period to ensure survivorship of the new population. Annual monitoring reports shall be submitted to the City for the three-year period.

A CNDDB form shall be filled out and submitted to CDFW for any specialstatus plant species identified within the project site. Any mitigation plan developed in consultation with CDFW shall be implemented prior to the initiation of grading or issuance of a development permit.

In lieu of the above prescribed mitigation, as allowed in writing by the City (for CEQA protected species only) and/or CDFW (for CEQA and/or state listed species), mitigation requirements may be satisfied via the purchase of qualified mitigation credits or the preservation of offsite habitat.

- 4.3-1(b) In the event the Placer County Conservation Plan is adopted prior to submittal of improvement plans for this project or prior to the project's own federal permits being obtained, then the above mitigation measure may be replaced with standard mitigation fees and conservation protocol to address this resource impact as set forth in the PCCP implementation document. If PCCP enrollment is chosen as mitigation for one or more biological resource area impacts, then the PCCP mitigation shall apply only to those species that are covered by the PCCP.
- 4.3-2 Have a substantial adverse effect on riparian habitat or other sensitive natural community, or federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

According to Barnett Environmental's *Biological & Wetland Resources Assessment*, the proposed project site contains annual grassland, seasonal wetland, and vernal pool habitats. Riparian habitats, which would be considered a sensitive natural community, do not exist on the project site, and thus the proposed project would not have the potential to adversely affect riparian habitats. However, the vernal pool and seasonal wetland habitats would be considered sensitive natural communities. Additionally, the Lincoln Canal runs across the site, and drainage ditches parallel Hungry Hollow Road and Virginiatown Road. Both the

Lincoln Canal and the drainage ditches would be affected by the proposed project and have been assumed to be jurisdictional features, for the purposes of this analysis. Barnett Environmental has estimated that a total of 1.392 acres of wetlands or other waters of the U.S. exist on the project site. The USACE has verified the presence of 1.17 acres of wetlands on the 40-acre tentative map area,²⁶ and Barnett Environmental has estimated an additional 0.222 acres associated with the Hungry Hollow Road annexation area.

The proposed project would include grading and development activities associated with the construction and operation of 144 single-family residential units and associated infrastructure. Such development activities would have the potential to involve the disturbance, removal, fill or hydrologic interruption of wetlands or other waters of the U.S. To determine the potential impacts related to wetlands that could occur due to construction activity associated with the proposed project, Barnett Environmental mapped the wetlands and other waters of the U.S., and quantified the areas that would be directly impacted, indirectly impacted, or avoided by the proposed project. The results of Barnett Environmental's wetland inventory are summarized below in Table 4.3-4.

As shown in the Table 4.3-4, the proposed project would have the potential to directly impact 30,372 square feet (sf) (0.697-acre) of existing on-site seasonal wetlands, ditches, vernal pool, and canals. Additionally, indirect impacts to 24,348 sf (0.560-acre) of existing on-site seasonal wetlands and vernal pools could occur with implementation of the proposed project. Indirect impacts are related to vernal pool fairy shrimp habitat, and include any development that would not physically impact wetlands, but that would occur within 250 feet of a wetland. A total of 5,886 sf (0.135-acre) of existing vernal pool and canal area would be avoided.

The 24,348 sf (0.560-acre) of indirectly impacted wetlands would be located within a parcel of the project site that would be dedicated as open space. Notwithstanding the dedication of open space, the features within the open space area are considered to be indirectly impacted because they are within 250 feet of proposed development. The proposed project will directly impact 0.697-acre of wetland or other waters of the U.S. through fill, ground disturbance, and the alteration of site hydrology (see Figure 4.3-2). As such, the proposed project would be required to obtain proper permitting from the USACE under Section 404 permitting. Applicants acquiring a Section 404 permit must also obtain a permit from the RWQCB under Section 401 of the CWA. The proposed project is located within the jurisdiction of the Central Valley Regional Water Quality Control Board (CVRWQCB), and thus the Section 401 permit must be obtained from the CVRWQCB.

²⁶ Unites States Army Corps of Engineers, Sacramento Division. Wetland Delineation Verification Letter. August 27, 2015.

Table 4.3-4				
Wetland Inventory Table				
Type of Wetland	Area (sf)	Area (acres)		
	Avoided			
Vernal Pool	490	0.011		
Canal	5,396	0.0124		
Subtotal	5,886	0.135		
	Direct Impacts			
Ditch	2,616	0.060		
Seasonal Wetland	4,042	0.094		
Vernal Pool	11,114	0.254		
Canal	12,600	0.289		
Subtotal	30,372	0.697		
	Indirect Impacts			
Ditch	9,100	0.210		
Vernal Pool	15,248	0.350		
Subtotal	24,348	0.560		
Grand Total				
Grand Total	60,606	1.392		
Source: Barnett Environmental. Biolog	-	essment for the McKim Lincoln		
Meadows (Placer County) Property. Me	ay 5, 2017.			

Should construction commence, and wetland areas be impacted without prior permitting from the USACE and CVRWQCB and/or preparation of a wetland mitigation program, the proposed project would result in a *significant* impact related to adverse effects on sensitive natural communities or federally protected wetlands through the construction-related fill of on-site wetlands.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level by avoiding adverse effects to wetlands and other waters of the U.S. to the maximum extent practicable, and otherwise requiring that the proper permitting be obtained, and purchase of preservation/creation credits in compliance with USACE guidance.

- 4.3-2(a) To the extent feasible, the project shall be designed to avoid and minimize adverse effects to wetlands and other waters of the United States within the project area. If impacts to wetlands will occur as a result of implementation of the proposed project, then prior to issuance of any grading permits, the project applicant shall acquire a Section 404 permit for fill of jurisdictional wetlands, and mitigation for impacts to jurisdictional waters that cannot be avoided shall be provided in conformance with the USACE "no-net-loss" policy.
- 4.3-2(b) If a Section 404 permit is obtained, the applicant must also obtain a water quality certification from the RWQCB under Section 401 of the Clean Water Act (CWA) prior to issuance of any grading permits.



Figure 4.3-2 Impacts to Wetlands and Other Waters of the U.S.

Source: Barnett Environmental. Biological & Wetland Resources Assessment for the McKim Lincoln Meadows (Placer County) Property. May 5, 2017.



Vicinity Map - Not to Scale

Description	Area (SF)	Area (AC)
Avoided		
Ditch	5,396	0.124
Vernal Pool	490	0.011
Subtotal	5,886	0.135
Direct		
Ditch	15,216	0.349
Seasonal Wetland	4,042	0.094
Vernal Pool	11,114	0.254
Subtotal	30,372	0.697
Indirect		
Seasonal Wetland	9,100	0.210
Vernal Pool	15,248	0.350
Subtotal	24,348	0.560
Grand Total	60,606	1.392

Table 3: Proposed	mpacts By Develo	pment Phase
Description	Area (SF)	Area (AC)
Phase 1 Developme	ent	
Avoided	5,886	0.135
Direct	20,031	0.459
Indirect	24,348	0.560
Phase 2 Developme	ent	
Direct	5,299	0.122
City Road Improver	nents	
Direct	5,042	0.116
Total Development		
Avoided	5,886	0.135
Direct	30,372	0.697
Indirect	24,348	0.560
Grand Total	60,606	1.392

4.3-2(c) In the event the Placer County Conservation Plan is adopted prior to submittal of improvement plans for this project or prior to the project's own federal permits being obtained, then the above mitigation measure may be replaced with standard mitigation fees and conservation protocol to address this resource impact as set forth in the PCCP implementation document. If PCCP enrollment is chosen as mitigation for one or more biological resource area impacts, then the PCCP mitigation shall apply only to those resources that are covered by the PCCP.

4.3-3 Impacts to special-status invertebrate species. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Helm Biological Consulting conducted wet season sampling of the wetland and vernal pool features on the project site to determine the presence or absence of federally-listed large branchiopods on the project site. All areas of the project site with the potential to support federally-listed large branchiopods were sampled during the wet-season. Areas with the potential to support large branchiopods were considered to be areas with an average of two inches or more of ponded water for at least 14, but less than 30 consecutive days. Such areas were initially observed for the visible presence of branchiopods, prior to sampling using dip netting.

Although vernal pool tadpole shrimp and Conservancy fairy shrimp were not identified in any of the sampled basins, one basin was found to contain the federally-threatened vernal pool fairy shrimp. The vernal pool supporting the vernal pool fairy shrimp would be directly impacted through fill and ground disturbance related to the proposed project.

As discussed in impact statement 4.3-2 above, because the proposed project would result in adverse effects to the on-site wetland and vernal pool areas, Mitigation Measure 4.3-2 requires that the applicant purchase two preservation credits and one creation credit for each acre of vernal pool branchiopod habitat directly impacted.

Given that construction of the proposed project would result in the incidental take of the federally listed vernal pool fairy shrimp, the project applicant would be required to initiate consultation and obtain a permit under Section 7 of the FESA. Given the removal of vernal pool habitat, the proposed project would result in a *significant* impact to special-status invertebrate species.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level by requiring the purchase of wetland habitat preservation/creation credits, and requiring exclusionary fencing to protect on-site habitat during construction.

4.3-3(a) Implement Mitigation Measure 4.3-2(a).

4.3-3(b) Orange exclusionary fencing shall be placed, and a buffer area of 250 feet (or lesser distance deemed sufficiently protective by a qualified biologist with approval from USFWS) maintained, around any avoided (preserved) vernal pool crustacean habitat during construction to prevent impacts from construction vehicles and equipment. This fencing shall be inspected by a qualified biologist throughout the construction period to ensure that it is in good functional condition.

Prior to beginning work on the project site, all on-site construction personnel shall receive instruction regarding the presence of listed species and the importance of avoiding impacts to these species and their habitat.

4.3-3(c) In the event the Placer County Conservation Plan is adopted prior to submittal of improvement plans for this project or prior to the project's own federal permits being obtained, then the above mitigation measure may be replaced with standard mitigation fees and conservation protocol to address this resource impact as set forth in the PCCP implementation document. If PCCP enrollment is chosen as mitigation for one or more biological resource area impacts, then the PCCP mitigation shall apply only to those species that are covered by the PCCP.

4.3-4 Impacts to special-status reptile and amphibian species. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Due to the lack of deep ponds, lakes or streams, and the location of the project site at the edge of the central valley, Barnett Environmental concluded that the project site would not be considered suitable habitat for the CRLF or the Sierra Nevada yellow-legged frog. Barnett Environmental's conclusion was corroborated by the lack of observations of either species during field surveys, and the lack of nearby recorded CNDDB occurrences.²⁷

While the CRLF and the Sierra Nevada yellow-legged frog are not considered to have the potential to occur on the project site, the western spadefoot toad prefers grassland habitats within the central valley, similar to the proposed project site, and the giant garter snake can use canals for habitat.

Barnett Environmental did not observe any western spadefoot toads during their field surveys of the project site, nor did the CNDDB reveal any occurrences of western spadefoot toads within five miles of the project area. Despite the lack of known on-site or nearby occurrences of western spadefoot toads, Barnett Environmental concluded that the on-site grassland and wetland areas could be considered potential habitat for the species.

Similarly, giant garter snakes were not observed during site visits in 2003, 2008, or August 2015, and the CNDDB does not include any records of occurrences of giant garter snakes

 ²⁷ Barnett Environmental. Biological Assessment for the McKim Lincoln Meadows (Placer County) Property. February 28, 2017.

within five miles of the project site. Nevertheless, the NID canal located on the project site could be considered potential habitat for the species.

The proposed project would involve ground-disturbing activities, and undergrounding of portions of the NID canal during construction. If western spadefoot toads or giant garter snakes are present at the project site during ground-disturbing or canal undergrounding activity, construction of the proposed project could impact western spadefoot toads and/or giant garter snakes. As such, the proposed project could result in a *significant* impact to western spadefoot toad and giant garter snake.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level by requiring construction activity to follow best management practices that would protect western spadefoots and giant garter snakes from harm during construction.

Western Spadefoot Toad

- 4.3-4 (a) The following best management practices shall be implemented prior to and during construction as specified below:
 - For work conducted during the western spadefoot toad migration and breeding season (November 1 to May 31), a qualified biologist will survey the active work areas (including access roads) in mornings following measurable precipitation events. Construction may commence once the biologist has confirmed that no spadefoot toads are in the work area.
 - When feasible, a 50-foot no-disturbance buffer shall be established around burrows that provide suitable upland habitat for western spadefoot toad. Burrows considered suitable for spadefoot shall be identified by a qualified biologist. The biologist shall delineate and mark the no-disturbance buffer.
 - If western spadefoot toad is found within the construction footprint, it will be allowed to move out of harm's way of its own volition or a qualified biologist will relocate the organism to the nearest burrow that is outside of the construction impact area.
 - A qualified biologist will inspect underneath equipment and stored pipes greater than 1.2 inches (3 cm) in diameter for western spadefoot toad. Inspections shall occur bi-weekly from January 1 to April 30, and only for one to two days following a rain event during the remainder of the year (May 1 to December 31), when water temperatures in the toad's potential breeding pools is between the

requisite 9 degrees Celsius (40 degrees Fahrenheit) and 30 degrees Celsius (86 degrees Fahrenheit). If any toads are found they shall be allowed to move out of the construction area under their own accord.

- Trenches and holes shall be covered and inspected daily for stranded animals. Trenches and holes deeper than one foot deep shall contain escape ramps (maximum slope of 2:1) to allow trapped animals to escape uncovered holes or trenches. Holes and trenches shall be inspected prior to filling.
- All survey findings made by the biologist shall be compiled into survey reports for review by the City of Lincoln's Community Development Department.
- 4.3-4(b) Implement Mitigation Measure 4.3-3(b)
- 4.3-4(c) In the event the Placer County Conservation Plan is adopted prior to submittal of improvement plans for this project or prior to the project's own federal permits being obtained, then the above mitigation measure may be replaced with standard mitigation fees and conservation protocol to address this resource impact as set forth in the PCCP implementation document. If PCCP enrollment is chosen as mitigation for one or more biological resource area impacts, then the PCCP mitigation shall apply only to those species that are covered by the PCCP.

Giant Garter Snake

- 4.3-4(d) Construction shall be restricted to occur between May 1 and October 1 to ensure that any snakes in the vicinity are restricted to the immediate environs of the adjacent perennial waterway. If construction occurs between October 2 and April 30, a qualified biologist shall stake or otherwise mark a "no disturbance" zone which shall include a 200-foot buffer around any perennial waterway on-site. If construction occurs between May 1 and October 1, a qualified biologist shall stake or otherwise mark a "no disturbance" zone that shall include a 10- to 15-foot buffer around any perennial waterways on-site.
- 4.3-4(e) Construction personnel shall receive USFWS approved worker environmental awareness training. This training shall instruct workers to recognize giant garter snakes and their habitat(s). Proof of completion of the environmental awareness training for construction personnel shall be provided to the City of Lincoln's Community Development Department, prior to commencement of construction activity.

- 4.3-4(f) A qualified biologist shall survey the project site for giant garter snakes 24hours prior to construction activities. Survey of the project area shall be repeated if a lapse in construction activity of two weeks or greater has occurred. If a snake is encountered during construction, activities shall cease until appropriate corrective measures have been completed or the qualified biologist has been determined that the snake will not be harmed. All survey findings made by the biologist shall be compiled into survey reports for review by the City of Lincoln's Community Development Department.
- 4.3-4(g) Any dewatered habitat shall remain dry for at least 15 consecutive days after April 15 and prior to excavating or filling of the dewatered habitat.
- 4.3-4(h) After completion of construction activities, any temporary fill and construction debris shall be removed and, wherever feasible, disturbed areas shall be restored to pre-project conditions.
- 4.3-4(i) In the event the Placer County Conservation Plan is adopted prior to submittal of improvement plans for this project or prior to the project's own federal permits being obtained, then the above mitigation measure may be replaced with standard mitigation fees and conservation protocol to address this resource impact as set forth in the PCCP implementation document. If PCCP enrollment is chosen as mitigation for one or more biological resource area impacts, then the PCCP mitigation shall apply only to those species that are covered by the PCCP.

4.3-5 Impacts to Swainson's hawk, white-tailed kite, and burrowing owl. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Potential impacts regarding Swainson's hawk, white-tailed kite, and burrowing owl are discussed separately in further detail below.

Swainson's hawk

Grassland is the natural foraging habitat preferred by Swainson's hawks, with croplands being used an alternative foraging habitat. Thus, the grassland and seasonal wetland areas on the project site provide suitable foraging habitat for Swainson's hawks. Swainson's hawks often nest in valley oaks or other tall trees in proximity to foraging habitat. The combination of suitable on-site foraging and the existing valley oak on the project site, make the project site potential habitat for the species. However, Swainson's hawks were not observed during field surveys in 2003, 2006, and 2015. Additionally, the CNDDB did not reveal and documented occurrences within a two-mile radius of the project site. Nevertheless, the presence of a valley oak and foraging habitat make the project site potential habitat for the species. If Swainson's hawks were to use the site for foraging or nesting habitat, construction-related activity and project operations could result in the disturbance of the species, and/or the loss of foraging habitat.

White-tailed kite

White-tailed kites often use grasslands, cultivated fields, and savanna areas for foraging habitat. Nests are typically made in trees in proximity to open land or isolated within grassland type habitat. Because the project site contains an isolated valley oak within an open grassland area, the project site would be considered to contain potentially suitable nesting habitat for the species. However, white-tailed kites were not observed during field surveys in 2003, 2006, and 2015. If white-tailed kites use the site for nesting habitat, construction-related activity and project operations could result in the disturbance of the species.

Western Burrowing Owl

Western burrowing owl habitat consists of open areas mainly characterized by sparse vegetation and bare ground. The species relies on burrows during the breeding season, but is also known to use burrows during non-breeding times of year. Western burrowing owls were not observed during field surveys in 2003, 2006, and 2015, and the CNDDB did not report any recorded occurrences within five miles of the project area. However, existing grassland habitat could be considered potential habitat for the species, and as such, construction-related activity and project operations could result in the disturbance of the species.

Conclusion

As identified in Table 4.3-3, the project site may provide habitat for three special-status raptor species: Swainson's hawk, white-tailed kite, and western burrowing owl. The valley oak tree is considered suitable habitat for tree nesting raptors, including Swainson's hawk and white-tailed kite. The annual grassland habitat could potentially provide suitable habitat for burrowing owl.

Because the project site could be used for nesting by various raptor species, ground disturbing activities associated with project construction could directly impact nesting birds if such activity occurs during the nesting season. Furthermore, noise and other human activity may result in nest abandonment if nesting raptors are present within close proximity of a work site. The disturbance or loss of an active nest or special-status raptor species would be considered a *significant* impact.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level by requiring preconstruction surveys and protection measures for identified protected species.

Swainson's hawk and other raptors (e.g., white-tailed kite)

- 4.3-5(a) If project activity would commence between March 1st and September 15th, a qualified biologist shall be retained to conduct a preconstruction survey for active nests in suitable habitat on and within 0.25-mile of the project site no more than 14 days and no less than seven days before commencement of each construction phase. If this survey does not identify any nesting raptors within the project site that would be disturbed, and for Swainson's hawks only, within the 0.25-mile radius surrounding the project site, no further mitigation would be required.
- 4.3-5(b) If an occupied nest is present, CDFW guidelines recommend implementation of a 0.25-mile buffer for Swainson's hawk (CDFG 1994) and 500 feet for other tree-nesting raptors, but the size of the buffer may be adjusted if a qualified biologist and CDFW determine that it would not be likely to adversely affect the nest. No project activity shall commence within the buffer area until a qualified biologist confirms that the nest is no longer active or that the young have fully fledged. Monitoring of the nest by a qualified biologist shall be required if the activity has potential to adversely affect the nest. For Swainson's hawks, no intensive new disturbances or other project-related activities that could cause nest abandonment or forced fledging, shall be initiated within the 0.25-mile (buffer zone) of an active nest between March 1 - September 15 (CDFG 1994).
- 4.3-5(c) The grassland habitat present at the proposed project site is considered suitable foraging habitat for Swainson's hawks. Prior to the commencement of construction, a qualified biologist shall determine if an active Swainson's hawk nest is located within 10 miles of the project site. If a nest is located within 10 miles of the project site, the project applicant shall provide mitigation for loss of foraging habitat through the dedication of land suitable for replacement Swainson's hawk foraging habitat. Habitat land dedication shall be made at a 1:1 ratio if the Swainson's hawk nest is within five miles of the project site, and 0.5:1 if the Swainson's hawk nest is within ten miles of the project site. The location of the replacement foraging habitat shall be coordinated with, and approved by, the CDFW, and shall be acquired prior to issuance of a grading permit. If active nests are not reported within ten miles of the project site, land dedication is not required.
- 4.3-5(d) In the event the Placer County Conservation Plan is adopted prior to submittal of improvement plans for this project or prior to the project's own federal permits being obtained, then the above mitigation measure may be replaced with standard mitigation fees and conservation protocol to address this resource impact as set forth in the PCCP implementation document. If PCCP enrollment is chosen as mitigation for one or more

biological resource area impacts, then the PCCP mitigation shall apply only to those species that are covered by the PCCP.

Burrowing Owl

4.3-5(e)A preconstruction survey shall be conducted by a qualified biologist or ornithologist during both the wintering and nesting season, unless the species is detected on the first survey. If possible, the winter survey shall be conducted between December 1 and January 31 (when wintering owls are most likely to be present) and the nesting season survey should be conducted between April 15 and July 15 (the peak of breeding season). Surveys conducted from two hours before sunset to one hour after, or from one hour before to two hours after sunrise, are preferable. The survey techniques shall be consistent with the Staff Report survey protocol and include a 260foot-wide buffer zone surrounding the Study Area. Repeat surveys should also be conducted not more than 30 days prior to initial ground disturbance to inspect for re-occupation and the need for additional protection measures. The survey(s) shall be paid for by the applicant and approved by the City of Lincoln Community Development Department. Survey Results would be valid only for the season during which the survey is conducted. The survey results shall be submitted to CDFW and the City of Lincoln Community Development Department.

If burrowing owls are not detected during preconstruction surveys, then further mitigation is not required.

4.3-5(f) If burrowing owls are found during the breeding season (February 1-August 31), the project proponent shall avoid all nest sites that could be disturbed by project construction during the remainder of the breeding season, or while the nest is occupied by adults or young.

> Avoidance shall include establishment of a 160-foot non-disturbance buffer zone. Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation, or that the juveniles from the occupied burrows have fledged.

4.3-5(g) If destruction of the occupied burrow is unavoidable during the nonbreeding season (September 1-January 31), the project proponent shall avoid the owls and the burrows they are using, if possible. Avoidance shall include the establishment of a 160-foot non-disturbance buffer zone. If occupied burrows for burrowing owls are not avoided, passive relocation shall be implemented. Owls shall be excluded from burrows in the immediate impact zone and within a 160-foot buffer zone by installing oneway doors in burrow entrances. These doors shall be in place for 48 hours prior to excavation. The project area shall be monitored daily for 1 week to confirm that the owl has abandoned the burrow. Whenever possible, burrows shall be excavated using hand tools and refilled to prevent reoccupation. Plastic tubing or a similar structure shall be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow. No permit is required to conduct passive relocation; however, this process shall be conducted by a qualified biologist and in accordance with CDFG guidelines. In addition, to offset the loss of foraging and burrow habitat on the project site, a minimum of 6.5 acres of foraging habitat (calculated on a 300-ft foraging radius around the burrow) per pair or unpaired resident bird, shall be acquired and permanently protected at a location acceptable to the CDFG.

If burrowing owls are identified on the project site, the City of Lincoln must receive copies of the Mitigation Agreement by and between the applicant and CDFG, prior to the issuance of grading permits for the proposed project.

4.3-5(h) In the event the Placer County Conservation Plan is adopted prior to submittal of improvement plans for this project or prior to the project's own federal permits being obtained, then the above mitigation measure may be replaced with standard mitigation fees and conservation protocol to address this resource impact as set forth in the PCCP implementation document. If PCCP enrollment is chosen as mitigation for one or more biological resource area impacts, then the PCCP mitigation shall apply only to those species that are covered by the PCCP.

4.3-6 Impacts to other special-status bird species and migratory birds. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Other special-status birds with potential to nest on the project site are limited to song sparrow (Modesto population). The CNDDB did not reveal any occurrences of the species on or adjacent to the project site. Song sparrow (Modesto population), which is designated by CDFW as a species of special concern, could be found nesting on the project site. The Modesto population of song sparrow is most commonly found nesting within grassland habitats, but can sometimes be found nesting off the ground, occasionally as high as 15 feet. Construction activity within the grassland areas of the project site or in proximity to the valley oak tree on the site could disturb nesting song sparrows, during the breeding season, including causing nest abandonment and mortality to eggs and chicks.

Areas proposed for construction are dominated by grassland habitat where ground-nesting migratory birds such as dark-eyed junco and western meadow lark could nest. Construction of the buildings, grading, and stockpiling of materials may cause disturbance to migratory birds nesting in the grassland habitat. In addition to potential damage or direct removal of an active nest, these construction activities could result in noise, dust, and other disturbances to nesting birds, resulting in potential nest abandonment and mortality to eggs

and chicks. Additionally, construction activity in proximity to the single existing valley oak on the project site, or the small adventive tree species scattered throughout the site, could disturb MBTA protected species using the trees or shrubs for nesting habitat. Such disturbance of trees and shrubs on-site would have a similar potential to cause nest abandonment and mortality to eggs and chicks.

Vegetation clearing and other construction activities for the project could result in the loss of individuals or nests, or disruptions to nesting attempts, of song sparrows and other special-status bird species, if they nest in the project site or vicinity in the future prior to construction. The potential disturbance or loss of song sparrows and other migratory bird nests would be *significant*.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level by requiring preconstruction surveys, and the application of nest protection measures when appropriate.

- 4.3-6(a) The project applicant shall implement the following measures to avoid or minimize impacts to protected migratory bird species including song sparrows:
 - If any site disturbance or construction activity for any phase of development begins outside the February 1 to August 31 breeding season, a preconstruction survey for active nests shall not be required.
 - If any site disturbance or construction activity for any phase of development is scheduled to begin between February 1 and August 31, a qualified biologist shall conduct a preconstruction survey for active tree nests and ground nests from publicly accessible areas within 14 days prior to site disturbance for any phase of development. The survey area shall cover the construction site and a 100-foot radius surrounding the construction site. The preconstruction survey shall be submitted to the City of Lincoln Community Development Department for review. If no nesting migratory birds are found, then further mitigation measures are not necessary.
 - If an active nest of a MBTA bird, or other CDFW-protected bird is discovered that may be adversely affected by any site disturbance, or an injured or killed bird is found, the project applicant shall immediately:
 - Stop all work within a 100-foot radius of the discovery.
 - Notify the City of Lincoln Community Development Department.
 - Do not resume work within the 100-foot radius until authorized by the biologist.
 - The biologist shall establish a minimum 100-foot Environmentally Sensitive Area (ESA) around the nest. The

ESA may be reduced if the biologist determines that a smaller ESA would still adequately protect the active nest. Further work may not occur within the ESA until the biologist determines that the nest is no longer active.

4.3-6(b) In the event the Placer County Conservation Plan is adopted prior to submittal of improvement plans for this project or prior to the project's own federal permits being obtained, then the above mitigation measure may be replaced with standard mitigation fees and conservation protocol to address this resource impact as set forth in the PCCP implementation document. If PCCP enrollment is chosen as mitigation for one or more biological resource area impacts, then the PCCP mitigation shall apply only to those species that are covered by the PCCP.

4.3-7 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. Based on the analysis below, the impact is *less than significant*.

As previously discussed, the annual grassland and wetlands located on-site provide habitat for a number of wildlife species. The on-site habitats provide connectivity with the open grasslands to the north. Open lands are also located south of the project site; however, this area is separated from the project site by Virginiatown Road. While much of the project site would be developed, a total of 7.67 acres of the project site would be maintained in perpetuity as open space, which would provide a link between the open lands in the Markham Ravine watershed to the north. The portion of the project site being protected as open space could continue to be used as a movement corridor. Potential impacts to species considered to be sensitive or of concern have been previously addressed in Impacts 4.3-2, 4.3-3, 4.3-4, and 4.3-5 above. Other species that have the potential to occur on-site and with a high mobility (birds, large mammals, etc.) could potentially move into adjacent open space areas in the immediate vicinity of the project site (e.g., Markham Ravine to the north). Bird and certain insect species would be able to travel by flight, while land-based wildlife species would be able to use the wetland area as a movement corridor. Potential impacts related to the non-sensitive species of concern from project implementation are, therefore, considered to be *less than significant*.

<u>Mitigation Measure(s)</u> *None required*.

4.3-8 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Development of the proposed project would involve conversion of the project site from primarily annual grassland to an urbanized residential development. The *Arborist Report & Native Oak Tree Inventory* identified one native tree on the project site, which is a

valley oak near the northern side of Virginiatown Road. The existing valley oak was determined to be in fair health, and the arborist did not recommend removal of the tree based on compromised health, structural instability or apparent defects.

In October 2014, when the Arborist Report & Native Oak Tree Inventory was prepared, site improvement plans were not available. As such, Sierra Nevada Arborists were not able to conclude whether project construction would impact the tree. The Arborist Report & Native Oak Tree Inventory did note that the existing oak tree would be subject to the City's Oak Tree Preservation Guidelines, and Chapter 18.69 of the City's Municipal Code.

The current site plans, included in Chapter 3, Project Description, of this EIR, indicate that the oak tree would be retained during development of the site. Therefore, the project applicant would not be required to obtain tree removal permits from the City. However, the area around the tree would be disturbed during construction, which could compromise the health of the tree. If construction activity including but not limited to grading, trenching, laying of fill, and drainage alterations was conducted in proximity to the tree, such activity would have the potential to damage the tree in violation of the City's Oak Tree Preservation Guidelines.

Because construction-activity related to the proposed project would have the potential to damage the tree, the proposed project could result in a *significant* impact.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level by ensuring that the recommendations made by Sierra Nevada Arborists regarding the protection of the on-site oak are followed during construction activity related to the proposed project.

- 4.3-8 Prior to Improvement Plan approval, the plans shall include the following applicable measures included in the Arborist Report and Native Oak Tree Inventory, prepared for the proposed project:
 - The applicant shall install a four-foot tall, brightly colored (yellow or orange), synthetic mesh material fence around the one existing oak tree to be preserved. The fencing shall delineate an area that is at least the radius of which is equal to the largest radius of the protected tree's drip line plus one foot. The fence shall be installed prior to any site preparation or construction equipment being moved on-site or any site preparation or construction activities taking place. Development of this site, including grading, shall not be allowed until this condition is satisfied. Any encroachment within the dripline of the one existing oak tree to be saved, must first be approved by a designated representative of the City's Community Development Department. Grading, clearing, or storage of equipment or machinery may not occur until a representative of the

City's Community Development Department has inspected and approved all temporary construction fencing. Trees shall be preserved where feasible. This may include the use of retaining walls, planter islands, or other techniques commonly associated with tree preservation. The Improvement Plans shall indicate the location of the fencing and include a note describing the fencing requirements consistent with this mitigation measure.

- The project contractor shall implement the following guidelines before and during grading and construction for protection of the oak tree to be preserved:
 - Plans and specifications shall clearly state protection procedures for the one existing oak tree on the project site. The specifications shall also include a provision for remedies if the oak tree is damaged;
 - Vehicles, construction equipment, mobile offices, or materials shall not be parked, stored, or operated within the dripline of the oak tree to be preserved;
 - Cuts and fills around the tree shall be avoided where *feasible*;
 - Soil surface removal greater than one foot shall not occur within the driplines of the oak tree to be preserved. Cuts shall not occur within five feet of the trunk;
 - Earthen fill greater than one foot deep shall not be placed within the dripline of the oak tree to be preserved, and fill shall not be placed within five feet of the trunk;
 - Underground utility line trenching shall not be placed within the driplines of the oak tree to be preserved where feasible without first obtaining approval from a designated representative of the Community Development Department. If it is necessary to install underground utilities within the driplines of oak trees, boring or drilling rather than trenching shall be used, or such activity shall be performed with hand tools to avoid root injury;
 - Paving shall not be placed in the vicinity of the oak tree to be preserved (at a minimum, within the dripline of the oak tree) without first obtaining approval from a designated representative of the Community Development Department; and
 - Irrigation lines or sprinklers shall not be allowed within the dripline of the oak to be preserved.

Cumulative Impacts and Mitigation Measures

The following discussion of impacts is based on the implementation of the proposed project in combination with other proposed and pending projects in the region. Other proposed and pending projects in the region under the cumulative context would include buildout of the City's General Plan, as well as development of the most recent planned land uses within the vicinity of the project area. Refer to Chapter 5, Statutorily Required Sections, of this EIR for more detail.

4.3-9 Cumulative loss of habitat in the City of Lincoln area for special-status species. Based on the analysis below, the impact is *less than cumulatively considerable*.

The cumulative setting for biological resources includes the City of Lincoln Planning Area. Development associated with implementation of the City of Lincoln General Plan would contribute to the ongoing loss of natural and agricultural lands in the Lincoln area, which currently provide habitat for a variety of species. Cumulative development would result in the conversion of existing agricultural, vernal pool, and seasonal wetland habitat to urban uses. The City of Lincoln General Plan, in addition to regional, State and federal regulations, includes policies and measures that mitigate impacts to biological resources associated with General Plan buildout. Implementation of regional, State and federal regulations, such as the Endangered Species Act would also minimize risks to sensitive populations and reduce cumulative impacts throughout the region. Nevertheless, combined effect of the project and future development related to buildout of the City's General Plan would result in a significant cumulative impact to biological resources.

It is therefore appropriate to determine whether the project's incremental contribution to the significant biological resources impacts in the General Plan EIR would be cumulatively considerable. As described in Impacts 4.3-1 through 4.3-6, construction of the proposed project would involve potential impacts to special-status plants, seasonal wetlands, vernal pools, special-status invertebrates, special-status amphibians and reptiles, special-status avian species, and MBTA protected species. Mitigation measures 4.3-1(a) through 4.3-8 will be implemented to ensure that the proposed project does not adversely impact biological resources or special-status species. These measures would further ensure that the proposed project adheres to the City's General Plan Policies regarding biological resources, such as the City's policy of no-net loss of wetlands. Project implementation would not result in any off-site impacts to biological resources. The reduction of potential impacts to a less-than-significant level through mitigation measures identified in this chapter would reduce the project's potential contribution to cumulative impacts that would otherwise result from implementation of the proposed project. Therefore, the project's incremental contribution to cumulative impacts related to biological resources throughout the City is considered a *less than cumulatively considerable* impact.

Mitigation Measure(s) None required.

4.4 CULTURAL RESOURCES

CULTURAL RESOURCES

4.4.1 INTRODUCTION

The Cultural Resources chapter of the EIR addresses known historic and prehistoric cultural resources, as well as tribal cultural resources, in the vicinity of the Lincoln Meadows Project (proposed project) area. Cultural resources can be categorized into prehistoric or historic resources. Prehistoric resources, including tribal cultural resources, are those sites and artifacts associated with indigenous, non-Euroamerican populations, generally prior to contact with people of European descent. Historic resources include structures, features, artifacts, and sites that date from Euroamerican settlement of the region. The potential for paleontological resources to occur on-site is also addressed in this chapter. The chapter summarizes the existing setting with respect to cultural and paleontological resources, identifies thresholds of significance and the proposed project's impacts to these resources, and sets forth mitigation measures that would be necessary to reduce impacts to a less-than-significant level. Information presented in this chapter is drawn from the *City of Lincoln General Plan*,¹ the *City of Lincoln General Plan EIR*,² and the *Cultural Resources Inventory* prepared for the proposed project by PAR Environmental Services.³

4.4.2 EXISTING ENVIRONMENTAL SETTING

The project site is located on the eastern edge of the Sacramento Valley in a portion of the Great Central Valley of California. Irregular water ponding in the form of vernal pools combined with small mounding characterize the site topography. The mounds, measuring between 50 cm to 1.5 meters (approximately 1.5 feet to 4.9 feet) in diameter in the project site (but highly variable in size overall) are known as Mima mounds. While a single theory on the formation of these mounds is not currently accepted by the scientific community, the mounds are often attributed to either wind driven sediment deposition around vegetation that has since been removed or pocket gopher activity. The Mima mounds are interspersed throughout the entire parcel, but are particularly concentrated in the southwest quarter. Landscapes characterized by vernal pool depressions and small mounds, such as those found on the project site, are typically referred to as hog-wallow landscapes.

The project site consists of pasture land with a single valley oak and several smaller, nonnative trees. Vegetation consists of annual and perennial grasses and forbs with some riparian-type grasses near a Nevada Irrigation District (NID) ditch (i.e., Lincoln Canal) that traverses the site

¹ City of Lincoln. *City of Lincoln General Plan*. March 2008.

² City of Lincoln. City of Lincoln General Plan Final Environmental Impact Report, Volume I. February 2008.

³ PAR Environmental Services, Inc. *Cultural Resources Inventory, The Proposed Lincoln Meadows Development.* June 2016.

and in swales. The prominent surface geology of the area is marked by thin alluvial gravels of the Riverbank Formation overlying intrusive granitic rock of Mesozoic age.

Prehistory

Interpretation of the prehistory of the Central Valley Region, began in the early 1900's with excavations being carried out in the Stockton Region by J. A. Barr, W. H. Holmes and P. M. Jones. Further investigations led by organizations such as the Sacramento Junior College and the University of California, Berkeley began to expand the modern understanding of the diverse prehistoric cultures of the Central Valley.

The earliest recognized cultural artifacts found in California are estimated to be between 11,000 to 12,000 years old, and include Clovis-like fluted points. Fluted points are thought to be the product of small, band-level societies that hunted now-extinct large Pleistocene mammals including elephant, mammoth, mastodon and bison, in addition to the common small and large game that still lives in the state. These archeologically rare artifacts have usually been found as scattered, isolated fragments and have been identified throughout California. Additionally, select human remains, found in the southern portion of the Central Valley, have an estimated age of approximately 15,600 years old, which represents some of the oldest human remains in the Americas.

Reasonably unambiguous archaeological precursors of the native, ethnographic cultures of California first appear in a recognizable form during the Emergent period, the last 1,100 years. The bow and arrow, bedrock mortar, and identifiable symbols of ethnographic religious practices are first noted in the archaeological record during the Emergent period. A growing economic emphasis on the acorn as a staple food, anadromous fish taking, and the management of biological resources and landscapes through seasonal burning is also noted. Population booms spurred development of elaborate economic systems and exchange networks that first appeared during the Late Archaic continue and appear to become more geographically complex. Shell money can be confidently identified in the archaeological record by the beginning of the Emergent period. Craft specialization and social stratification also appear or become more evident in the archaeological record throughout Central California.⁴

Ethnography

The Native Americans who occupied the project vicinity at the time of Euroamerican contact (ca. 1850s) were speakers of a Maiduan language known as the Nisenan and were referred to, as a people, as the Southern Maidu. Several ethonographers have studied the Maiduan speaking peoples and generally agree that Nisenan territory included the drainages of the Bear, American, Yuba and southern Feather rivers. The Nisenan's permanent settlements in the foothills and mountains were often located on hillsides or ridges in between parallel streams. Valley dwelling Nisenan tribes tended to occupy high ground near the major streams. Nisenan tribe houses were partially underground with earth or occasionally tule covered roofs. Prehistoric and ethnographic

⁴ PAR Environmental Services, Inc. Cultural Resources Inventory, The Proposed Lincoln Meadows Development. June 2016.

Lincoln was situated in the border lands between valley dwelling tribes and foothill groups with a focal area near Auburn. A typical foothill hill or mountain village consisted of several conical houses covered with bark slabs in the mountains and more often grass thatch in the foothills. The nearest ethnographic village in the Lincoln area was called Bamuma. The lower foothills and the Great Valley were rich in natural resources and the Maidu took advantage of the plethora of available foods. Acorns were important to the diet of Nisenan people and were supplemented with seeds, nuts, berries, herbs, and fruit. Virtually every animal was hunted and/or trapped, excluding lizards, snakes, and grizzly bears. Maidu were nomadic throughout much of the year, moving from place to place following game and gathering plants.

Stretches of Secret Ravine were used by the Maidu or their predecessors, as evidenced by the many clusters of bedrock mortars that were used for processing acorns and other seeds and nuts. According to previous work done by Norman Wilson, families would usually go to special places to get acorns, and they may have owned certain trees, traditionally. Wilson's information is based on ethnographic work with Elizabeth Enos, a Foothill Nisenan living north of Auburn.^{5,6}

The Nisenan hunting and gathering cycle was altered drastically with the discovery of gold in Coloma in 1848. As miners poured into the Roseville and Auburn areas and adjacent streams and tributaries, the Native Americans were forced out of their winter villages, land was fenced, streams were silted and food resources became increasingly difficult to procure. Stephen Powers, after traveling through the region in the 1870s, noted that the "Nishiman [sic]…had the misfortune to occupy the heart of the Sierra mining region, in consequence of which they have been miserably corrupted and destroyed." By the 1870s, Nisenan were surviving as best they could, working for whites in mines or on ranches, panning for gold, or adopting even more abstract forms of survival.⁷

Sensitivity and Buried Site Potential

The potential for buried sites is most prevalent at deep vertical depths. Ranching, agricultural use of land, and heavy historic use often obscure or bury prehistoric archaeology on the surface. Such burial of prehistoric archaeology has proven true elsewhere in the Central Valley, as young alluvial basin sediments have deeply buried evidence of older archaeological deposits prior to approximately 5,000 years ago. Other sites in the Sacramento Valley uncovered archaeological remains from 4,000 years ago at depths surpassing 11 feet. Lincoln itself is situated on landforms that are Pleistocene in age or earlier. Human populations were sparse or absent during this time, and the likelihood of finding buried sites on Pleistocene land forms is therefore low. Holocene-aged sediments are mostly concentrated in drainages or immediately adjacent to creeks and streams in the foothills.⁸

⁵ Wilson, Norman. *Notes of Traditional Foothill Nisenan Food Technology*. Center for Archaeological Research at Davis, Publication No. 3:32-38. University of California Davis. 1972.

⁶ Wilson, Norman L., and Towne, Arlene H. *Handbook of North American Indians, No.* 8. Smithsonian Institution, Washington D.C. 1978.

⁷ PAR Environmental Services, Inc. *Cultural Resources Inventory, The Proposed Lincoln Meadows Development.* June 2016.

⁸ PAR Environmental Services, Inc. Cultural Resources Inventory, The Proposed Lincoln Meadows Development. June 2016.

History

The earliest Euro-American use of the general project vicinity was probably by miners in the late 1840s. By 1851 the area was sparsely settled and ranching had begun on a small scale. Mining quickly escalated along many nearby streams crossing the lower foothills including Doty and Secret ravines.

Lincoln as a town began in 1861, after the California Central Railroad built a depot there. The town was named for one of the railroad's presidents and promoters, Charles Lincoln Wilson. Coincidentally, Abraham Lincoln was also elected president of the United States in March that year. The town of Lincoln remained the terminus of the line until 1866 when the line moved on to Wheatland, but during those five years Lincoln thrived as a stage and freight center.

Lincoln was most noted for agricultural pursuits, which became increasingly important to the local economy. One of the earliest local growers was J. R. Nickerson, who started a ranch in the 1850s along Doty Ravine. Nickerson became a prominent rancher in Placer County, developing extensive orchards and a vineyard of more than 225 acres. Lincoln is also famous for Gladding McBean, a terracotta and vitrified clay pipe company established in 1875 and still in operation today.

The growth of the agricultural operations relied on abundant water, especially in the dry summer months. Most of the water infrastructure in the region was developed beginning in the Gold Rush to bring water to mining operations. As mining activity began to slow in the 1870s, extending the mountain and foothill ditches into the valley floor created a new market for water and ditch companies.

Although the City of Lincoln's focus shifted to agriculture beginning in the 1870s, mining continued into the early twentieth century in the Lincoln area. In addition to small-scale creek mining, some minor companies operated dragline gold dredges in the 1930s on roughly 1,200 acres of land in the region, including property adjacent to the project site.

While Lincoln remained a largely agricultural community well into the twentieth century, supplemented economically by the Gladding McBean Company, population growth and development accelerated after World War II. New development began along transportation corridors, including Interstate 80, which created a small housing boom in western Placer County. By the 1980s, expansion of both commercial and residential development had occurred throughout much of the central Sacramento Valley, and the City of Lincoln's economy became increasingly diversified and less dependent on agriculture, leading to continued conversion of ranch and orchard land for other uses.⁹

⁹ PAR Environmental Services, Inc. Cultural Resources Inventory, The Proposed Lincoln Meadows Development. June 2016.

The Lincoln Canal

Water delivery was essential to the growth of Lincoln's agricultural economy. One of the largest ditch companies originating in the Gold Rush era was the Excelsior Company, which incorporated in 1855 and began delivering water to mines around Sucker's Flat in Nevada County. This company grew over the following decades, equaling or exceeding the South Yuba Canal Company, which served the region east of Nevada City and as far east as Fordyce Dam. The Excelsior Company served Nevada City and eventually as far west as Marysville and Lincoln.

Both of these companies organized with the intent of selling water to mines. These became substantial efforts as the vastly more profitable hydraulic mining operations began replacing the earlier placer mining. However, both companies faced major reorganization after the Sawyer Decision in 1884 restricted hydraulic mining and its devastating environmental impacts. Over the next 30 years, both companies bought up smaller water companies and changed their customer base from mining to irrigation and domestic users.

The South Yuba Canal Company was the largest company in the region by the 1880s, and by 1890 the South Yuba Canal Company had extended operations into the towns of Auburn, Newcastle, and Lincoln.

The first mention of Lincoln's water system appeared in Placer County newspapers in 1881. In May that year, Lincoln resident Galusha Gray began building a lateral ditch off the Gold Hill Canal, of the Bear River Company, to bring water to a settling pond for use by the Gladding McBean pottery company and the railroad depot in Lincoln. In 1885, Gray bought old iron pipe from an abandoned mine to bring water into town to sell. Gray's water works continued to make repairs on pipes in town into the early 1890s.

An 1893 map of the company's operations shows the Lincoln Canal terminating in a reservoir in the project vicinity. The canal depicted on the 1893 map was Galusha Gray's lateral canal that diverted water from the Bear River by way of the Gold Hill Canal. In 1893, before the City of Lincoln incorporated, directors of the South Yuba Water Company visited Lincoln to discuss their water system. Galusha Gray's Water Works were determined to be inadequate for the town as the available pressure would not be enough to pressurize fire hydrants. In 1896, town leaders passed a bond that allowed them to begin improving their system. A large reservoir was subsequently built on the J. P. Whitney property on the hills east of Lincoln that would give adequate gravitational feed to improve Lincoln's water pressure. Concurrent with the construction of the larger reservoir on the Whitney property, the settling pond originally built by Galusha Gray in 1881 was breached and the canal was converted to a smaller-scale use.

In 1910, PG&E purchased the South Yuba Water Company, and PG&E continued to operate the company over the next 16 years. In the 1920s, PG&E began to focus their efforts on hydroelectric development and sold off portions of their system strictly involved in irrigation.

They sold the Lincoln Canal to the newly formed Nevada Irrigation District in 1926, which continues to operate the canal.¹⁰

Today, the Lincoln Canal is owned and operated by the NID. According to the NID ditch tender, the canal is operated seasonally for the purposes of irrigation and stock watering. The segment within the project site consists of approximately 2,800 feet of ditch. The channel ranges from five to seven feet in width and averages about 18 inches in depth. A track or narrow road parallels the right side of the ditch, evidently offering access for the ditch tender.

An earthen dam that measures 76 meters (250 feet) long and 1.5 meters (five feet) high is also contained within the parcel and is transected by the Lincoln Canal. The relationship of the dam to the ditch indicates that the dam is older than the ditch. The dam appears to be a part of the original South Yuba Water Canal's reservoir situated at the terminus of the Lincoln Canal built by Galusha Gray in 1881.

Known Cultural Resources within the Project Site

The project site was investigated for the potential presence of cultural resources through a combination of field surveys, consultation with various organizations and individuals, and archival research.

As part of the field surveys, the two on-site resources, the Lincoln Canal and earthen dam, were recorded and evaluated. According to the most recent field survey conducted in 2016, changes to integrity of the resources have not occurred in the last ten years. One ditch feature mentioned but not recorded during a 2006 survey appears to be machine made and much more recent than the two identified historic resources on the site. Dredge mining activities are present east of Hungry Hollow Road and the fields of tailings have been previously recorded as P-31-5221. The Dredge Mining Tailings field is located outside the project vicinity. Modern road debris is also present along the immediate edges of Hungry Hollow and Virginiatown Roads, within the roadside ditches on both of the roads. Virginiatown Road was recorded as a cultural resource, but no longer has the appearance of a wagon road. Hungry Hollow Road was recorded as a cultural resource as well; however, the roadway is currently a modern road utilized by the residents of the area and has been altered via maintenance, paving, and widening over time. Some prehistoric resources were revealed outside a quarter-mile radius, but less than one mile away from the project site in Secret Ravine, including bedrock mortar (BRM) milling stations and habitation areas. However, the resources are outside the project site.

The North Central Information Center (NCIC) conducted a records review in 2016 to identify any known cultural resources at the project site or previous cultural resource studies in the project vicinity. The NCIC search revealed that the only recorded resources within the Area of Potential Effect (APE) were the dam and canal discussed above. The NCIC also identified the mining area mentioned above, located within a quarter-mile of the project site south of Auburn Ravine and Virginiatown Road, approximately 400 meters from the project site. The above-

¹⁰ PAR Environmental Services, Inc. Cultural Resources Inventory, The Proposed Lincoln Meadows Development. June 2016.

mentioned Dredge Mining Tailing field is located east of Hungry Hollow Road and only spreads across the road to the north of the project site. Four survey reports and one evaluation report have been prepared for locations within a quarter-mile radius of the project site. The *Cultural Resources Inventory* concluded that neither the Lincoln Canal nor the earthen dam were eligible for either the National Register of Historic Places (NRHP) or the California Register of Historic Resources (CRHR), and are not considered historical resources for the purposes of CEQA.

Archival records searches provided background information of importance to the consideration of the Lincoln Canal and the earthen dam. However, archival records did not identify any new or previously unidentified paleontological, archaeological, historical, or cultural resources.

Paleontological Setting

The proposed project site is located on the Riverbank Formation, which consists primarily of sediment deposits left by streams, known as alluvium, which were present in the area during the late Pleistocene epoch. Two other geologic units are present in the project site: the Pliocene-Pleistocene Turlock Lake Formation and the Holocene alluvium. The Holocene deposits are the youngest deposits in the vicinity and are considered too young to be fossiliferous; however, the Pliocene-Pleistocene Turlock Lake Formation and the Riverbank Formation are older formations, which have the potential to yield significant paleontological resources. Pleistocene deposits in Placer County have only yielded one vertebrate fossil, which was a molar fragment from a *Mammut americanum* (America mastodon) approximately six miles to the southeast, in the City of Rocklin. Additionally, there are no Pleistocene or Pliocene plant localities within ten miles of Lincoln. However, in other counties both geologic units present in the project site have yielded greater numbers of fossils, with 14 vertebrate localities from the Tulare Formation and nine in the Riverbank Formation, indicating that both units have the potential to yield significant fossils.¹¹

4.4.3 REGULATORY CONTEXT

Federal, State, and local governments have developed laws and regulations designed to protect significant cultural resources that may be affected by actions that they undertake or regulate. The National Historic Preservation Act (NHPA) and the California Environmental Quality Act (CEQA) are the basic federal and State laws governing preservation of historic and archaeological resources of national, regional, State, and local significance.

Federal Regulations

The following are the federal environmental laws and policies relevant to cultural resources.

¹¹ Finger, Kenneth L. Consulting Paleontologist. *Paleontological Assessment of the Lincoln Meadows Project Site, Placer County California*. December 15, 2016.

Section 106 for the National Historical Preservation Act (NHPA) of 1966

Federal regulations for cultural resources are governed primarily by Section 106 of the NHPA of 1966. Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Council's implementing regulations, "Protection of Historic Properties," are found in 36 Code of Federal Regulations (CFR) Part 800. The goal of the Section 106 review process is to offer a measure of protection to sites that are determined eligible for listing on the NRHP. The criteria for determining NRHP eligibility are found in 36 CFR Part 60. Amendments to the Act (1986 and 1992) and subsequent revisions to the implementing regulations have, among other things, strengthened the provisions for Native American consultation and participation in the Section 106 review process. While federal agencies must follow federal regulations, most projects by private developers and landowners do not require this level of compliance. Federal regulations only come into play in the private sector if a project requires a federal permit or if it uses federal funding.

National Register of Historic Places (NRHP)

NRHP is the nation's master inventory of known historic resources. The NRHP includes listings of resources, including: buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, State, or local level. Resources over 50 years of age can be listed on the NRHP. However, properties under 50 years of age that are of exceptional significance or are contributors to a district can also be included on the NRHP. Four criteria are used to determine if a potential resource may be considered significant and eligible for listing on the NRHP. The criteria include resources that:

- A. Are associated with events that have made a significant contribution to the broad patterns of history; or
- B. Are associated with the lives of persons significant in our past; or
- C. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. Have yielded or may likely yield information important in prehistory or history.

A resource can be individually eligible for listing on the NRHP under any of the above four criteria, or it can be listed as contributing to a group of resources that are listed on the NRHP.

A resource can be considered significant in American history, architecture, archaeology, engineering, or culture. Once a resource has been identified as significant and potentially eligible for the NRHP, the resource's historic integrity must be evaluated. Determining a resource's integrity is a crucial part of assessing a potential resource's significance. The National Park Service identifies the types of integrity as a function of the seven factors listed below:

• **Location** is the place where the historic property was constructed or the place where the historic event occurred;

- **Design** is the combination of elements that create the form, plan, space, structure, and style of a property;
- **Setting** is the physical environment of the historic property;
- **Materials** are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property;
- **Workmanship** is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;
- **Feeling** is a property's expression of the aesthetic or historic sense of a particular period of time; and
- Association is the direct link between an important historic event or person and a historic property.

Integrity is based on significance: why, where, and when a property is important. Only after significance is fully established is the issue of integrity addressed. Ultimately, the question of integrity is answered by whether or not a potential resource retains the identity for which the resource is significant. A resource must have at least two types of integrity and meet one of the four criteria listed above in order to qualify for the National Register.

State Regulations

The following are the State environmental laws and policies relevant to cultural resources.

California Environmental Quality Act

State historic preservation regulations affecting the project include the statutes and guidelines contained in CEQA (Public Resources Code [PRC] Sections 21083.2 and 21084.1 and Sections 15064.5 and 15126.4 (b) of the CEQA Guidelines). CEQA requires lead agencies to consider the potential effects of a project on historic resources and unique archaeological resources. An "historic resource" includes, but is not limited to, any object, building, structure, site, area, place, record or manuscript that is historically or archaeologically significant (PRC Section 5020.1). Under Section 15064.5 of the CEQA Guidelines, a resource is considered "historically significant" if it meets one or more of the following CRHR criteria:

- 1. The resource is associated with events that have made a significant contribution to the broad patterns of California history; or
- 2. The resource is associated with the lives of important persons from our past; or
- 3. The resource embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual or possesses high artistic values; or
- 4. The resource has yielded, or may be likely to yield, important information in prehistory or history.

CEQA requires preparation of an EIR if a proposed project would cause a "substantial adverse change" in the significance of a historical resource. A "substantial adverse change" would occur if a proposed project would result in physical demolition, destruction, relocation, or alteration of

the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired (CEQA Guidelines Section 15064.5(b)(1)).

In addition to historically significant resources, which can include archeological resources that meet the criteria listed above, CEQA also requires consideration of "unique archaeological resources." If a site meets the definition of a unique archaeological resource, it must be treated in accordance with the provisions of PRC Section 21083.2. Under PRC Section 20183.2(g), an archaeological resource is considered "unique" if it:

- 1. Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- 2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- 3. Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC 21083.2(g)).

CEQA also includes specific guidance regarding the accidental discovery of human remains. Specifically, CEQA Guidelines Section 15064.5(e) requires that if human remains are uncovered, excavation activities must be stopped and the county coroner be contacted. If the county coroner determines that the remains are Native American, the coroner must contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC identifies the most likely descendent, and that individual or individuals can make recommendations for treatment of the human remains under the procedures set forth in Section 15064.5 of the CEQA Guidelines. Furthermore, California law protects Native American burials, skeletal remains, and associated grave artifacts regardless of the antiquity and provides for the sensitive treatment and disposition of such remains.¹²

California Register of Historic Places (CRHR)

The State Office of Historic Preservation (SHPO) maintains the CRHR. Properties that are listed on the NRHP are automatically listed on the CRHR, along with State Landmarks and Points of Interest. The CRHR can also include properties designated under local ordinances or identified through local historical resource surveys.

Tribal Consultation Guidelines (Senate Bill 18)

Senate Bill (SB) 18, authored by Senator John Burton and signed into law by Governor Arnold Schwarzenegger in September 2004, requires local (city and county) governments to consult with California Native American tribes, when amending or adopting a general plan or specific plan, or designating land as open space, in order to aid in the protection of traditional tribal cultural places ("cultural places"). The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. The consultation and notice

¹² California Health and Safety Code Section 7050.5, California Public Resources Code Sections 5097.94, *et seq.*

requirements apply to adoption and amendment of both general plans (defined in Government Code §65300 et seq.) and specific plans (defined in Government Code §65450 et seq.).

Assembly Bill 52

Assembly Bill (AB) 52 adds tribal cultural resources to the categories of cultural resources in CEQA, which had formerly been limited to historic, archaeological, and paleontological resources. "Tribal cultural resources" are defined as either:

- (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
 - (A) Included or determined to be eligible for inclusion in the CRHR.
 - (B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
- (2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1.¹³ In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

As stated in Section 11 of AB 52, this act shall apply only to a project that has a notice of preparation or a notice of negative declaration or mitigated negative declaration filed on or after July 1, 2015. The Notice of Preparation (NOP) for the Lincoln Meadows EIR was filed with the State Clearinghouse on July 20, 2016. Therefore, the proposed project is subject to AB 52, and consultation with Native American tribes was completed by the City of Lincoln. The methodology and results of such consultation are included in the "Method of Analysis" subsection of Impacts and Mitigation Measures in section 4.4.4, below.

Local Regulations

The following are the local government's environmental policies that are intended to protect cultural resources by mitigating the potential impacts of new development in areas containing important archaeological, historic, or paleontological resources.

¹³ Per Government Code Section 5024.1 (c), the criteria are the same as the National Register of Historic Places criteria:

⁽¹⁾ Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

⁽²⁾ Is associated with the lives of persons important in our past.

⁽³⁾ Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

⁽⁴⁾ Has yielded, or may be likely to yield, information important in prehistory or history.

City of Lincoln General Plan

Chapter 6, General Plan Policy Consistency, identifies adopted General Plan policies that are relevant to the evaluation of cultural and tribal cultural resources and an evaluation of consistency with those policies. No inconsistencies with the General Plan policies are identified. However, while City staff has done its best to ascertain consistency, the Lincoln City Council makes the ultimate decision regarding consistency with the General Plan.

4.4.4 IMPACTS AND MITIGATION MEASURES

This section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to cultural resources.

Standards of Significance

In accordance with CEQA, the effects of a project are evaluated to determine if they would result in a significant adverse impact on the environment. For the purposes of this EIR, an impact is considered significant if the proposed project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;
- Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;
- Disturb any human remains, including these interred outside of formal cemeteries; or
- Directly or indirectly disturb or destroy a unique tribal cultural resource, such as a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American tribe.

Method of Analysis

In June 2016, PAR Environmental Services, Inc. (PAR) prepared a *Cultural Resources Inventory* for the proposed project. The methods used in the preparation of the Cultural Resources Inventory are discussed below.

The proposed project site was previously surveyed in both 2002 and 2006 by PAR's senior archaeologist John W. Dougherty. Mr. Dougherty also provided the ethnographic context for the current *Cultural Resources Inventory*. Two resources recorded by PAR during this work were evaluated in 2006 by PAR's senior historian, Cindy Baker, for inclusion in the NRHP. Preparation of the current *Cultural Resources Inventory* included an updated records search and a field survey.

The *Cultural Resources Inventory* has comprehensively examined the project site through record searches at the NCIC, consultation, archival research, and fieldwork in 2002, 2006, and 2016.

The initial record search was conducted by NCIC staff on May 28, 2002 and included information from the SHPO, archaeological information, Points of Historical Interest, State Historic Landmarks, and the 1855 GLO Plat Maps. In 2006, when the project was revisited, a new record search was not conducted, as less than five years had passed; however, a new record search was completed by the NCIC in January 2016 for the currently proposed project.

Consultation

Consultation with the SHPO, NAHC, and individuals listed by the NAHC occurred in conjunction with the 2006 cultural resources study. The agencies were asked to provide information regarding recorded sites, known sacred sites, traditional values, concerns, villages or ceremonial use areas within the project, and to identify people of Native American descent who might be knowledgeable about the project site. Letters were mailed to tribal representatives on January 18, 2006. As ten years had passed, consultation was again initiated by PAR by requesting a tribal contact list from the NAHC on January 12, 2016. Following PAR's contact with the NAHC, the City of Lincoln assumed responsibility for tribal consultation in compliance with Section 106 and AB 52.

The United Auburn Indian Community of the Auburn Rancheria had previously requested consultation under AB 52 from the City of Lincoln. In recognition of the request for consultation the City distributed a consultation request letter on March 16, 2016, which was received by the United Auburn Indian Community of the Auburn Rancheria on March 18, 2016. Although a response was not received within the 30-day period for AB 52, a letter received on August 10, 2016 from the United Auburn Indian Community of the Auburn Rancheria requested the opportunity to comment on the environmental documents for the proposed project, and further requested that the United Auburn Indian Community of the Auburn Rancheria be contacted should any cultural resources be found within the project site. The City added the United Auburn Indian Community of the Auburn Rancheria to the distribution list for all subsequent environmental documents related to the project, and agreed to notify the United Auburn Indian Community of the Auburn Rancheria if any artifacts were found.

Concurrently, the City of Lincoln contacted the relevant tribal representatives provided by the NAHC under SB 18. Contact letters were mailed to the United Auburn Indian Community of the Auburn Rancheria, the Tsi Akim Maidu, and the Shingle Springs Band of Miwok Indians on March 24, 2016. Responses from the Tsi Akim Maidu and the Shingle Springs Band of Miwok Indians were not received. However, a response from the United Auburn Indian Community of the Auburn Rancheria was received on August 10, 2016, which was after the 90-day response period for SB 18 consultation had closed. Because the United Auburn Indian Community of the Auburn Rancheria's response was not received within the 90-day response period, consultation between the United Auburn Indian Community of the Auburn Rancheria to the City added the United Auburn Indian Community of the Auburn Rancheria to the distribution list to provide the opportunity to comment on the subsequent environmental documents, and the City agreed to notify the United Auburn Indian Community of the Auburn Rancheria if artifacts are found in or around the project site.

Archival Research

As noted above, the project site has been previously investigated. The most recent archival research was conducted by PAR staff in January of 2016. The research entailed locating historic maps and previously published materials, as well as contacting the NID and persons knowledgeable about Placer County and Lincoln history. In particular, local historian Jerry Logan gathered newspaper references to the development of Lincoln's water system at the City's archives. Record search information and previous cultural studies located during the initial survey and inventory were also reviewed in the archival research process. In addition, PAR's extensive library of materials related to over 20 years of researching and evaluating PG&E resources (including the South Yuba Canal) provided additional information not available without access to their corporate archives.

Sources and individuals contacted included the following:

- California State Library, California History Section (history and historic maps);
- California State Library, Government Publications (historic maps);
- Nevada Irrigation District, Right-of-Way Department (requested canal history);
- Fallon Murch, Ditch Tender, Nevada Irrigation District (canal history);
- Steve Art, City of Lincoln (canal history);
- Primo Santini, Placer County Water Agency trustee and Lincoln resident;
- Mike Lee, Placer County Water Agency trustee;
- Jerry Logan, Lincoln Historian (canal history); and
- Lincoln Chamber of Commerce (general and specific history).

Archival records searches provided background information of importance to the consideration of the Lincoln Canal and the earthen dam. However, archival records did not identify any new or previously unidentified paleontological, archaeological, historical, or cultural resources.

Field Surveys

Several pedestrian field surveys have been completed for the approximately 40-acre project site. The field surveys focused on the area known as the APE, which is the area that would be disturbed by buildout of the proposed project. The APE includes the roadside ditch bordering Virginiatown Road on the north and the segment of Hungry Hollow Road included in the proposed project's annexation area. A field survey of the parcel was first conducted in 2002 and included a larger area than the current APE. In 2006, the parcel was surveyed again, by PAR Senior Prehistoric Archaeologist John Dougherty. Mr. Dougherty implemented general transects and covered the parcel with 50 percent survey coverage. Furthermore, in 2006, PAR completed a National Register Evaluation for the portion of the Lincoln Canal that runs through the project site. In 2016, as ten years had passed since the previous study, the survey was updated with a new field visit by PAR staff archaeologists Andrea E. Maniery, and Josh Allen. The cultural resources survey update was completed on February 1, 2016 by Maniery and Allen. The project site was subject to 100 percent intensive pedestrian survey using 15-meter-wide transects.

Peer Review

On April 4, 2016 Windmiller Consulting, Inc. conducted a peer review of the *Lincoln Meadows Survey Letter Report* prepared by PAR for the proposed project.¹⁴ The peer review concluded that an evaluation of Hungry Hollow Road for potential National Register and California Register eligibility was necessary. PAR subsequently revised the report in accordance with Windmiller Consulting's recommendations, and submitted a revised report entitled *Cultural Resources Inventory the Proposed Lincoln Meadows Development*, dated June 2016. Windmiller Consulting, Inc. concluded that all issues had been resolved and the report was adequate.¹⁵

Paleontological Resources Consultation

In December 2016, consulting paleontologist Kenneth L. Finger, Ph.D. conducted an investigation of the potential presence of paleontological resources for the proposed project.¹⁶ The paleontological assessment included a review of geologic maps from the US Geological Survey for the Lincoln quadrangle as well as a review of the paleontological database at the University of California Berkeley Museum of Paleontology.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on implementation of the proposed project in comparison with the standards of significance identified above.

4.4-1 Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines, Section 15064.5. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Four potential historic resources were investigated on the project site: the Lincoln Canal, the remains of an earthen dam, Virginiatown Road, and Hungry Hollow Road. Each potential resource is analyzed below.

The Lincoln Canal

The *Cultural Resources Inventory* of the proposed project site concluded that the existing canal that runs through the site is a portion of a canal system originally constructed by Galusha Gray in 1881. The system was originally constructed to bring and sell water to Gladding McBean Pottery, the railroad depot in Lincoln, and other subscribers within the City of Lincoln. The Lincoln Canal connected the Gold Hill Canal, which itself diverted water from the Bear River, to a settling pond, which was most likely located on the project site. Ownership of the Lincoln Canal passed to the South Yuba Water Company in the 1890s, which later became a part of PG&E, and eventually ownership of the canal

¹⁴ Windmiller Consulting, Inc. *Lincoln Meadows*. Revised April 4, 2016.

¹⁵ Ric Windmiller, Registered Professional Archaeologist, Windmiller Consulting, Inc. Personal Communication with Nick Pappani, Vice President of Raney Planning & Management, Inc. August 4, 2016.

¹⁶ Finger, Kenneth L. Consulting Paleontologist. *Paleontological Assessment of the Lincoln Meadows Project Site, Placer County California*. December 15, 2016.

was transferred to the NID. Around 1897, the Lincoln Canal was extended beyond the settling pond on the project site. Although the exact date of the present alignment of the canal is unknown, the historic maps indicate that the canal's current alignment was in place by 1926 at the latest, and may have been constructed as early as 1897.¹⁷

The proposed project would involve development of the project site and replacement of approximately 1,000 feet of the canal with underground piping. Because the proposed project would include disturbance of the Lincoln Canal, PAR applied the eligibility criteria of the NRHP as well as the CRHR to the portion of the canal that would be undergrounded as part of the proposed project.

The Lincoln Canal is associated with development of the water supply for the early City of Lincoln; as such, the canal would be considered important in local history, thus meeting Criteria 1 of the CRHR and Criteria A of the NRHP. Per the National Park Service's recommendations regarding cultural resource significance, because the Lincoln Canal meets Criteria 1 of the CRHR, the integrity of the canal was assessed to determine the canal's cultural significance under Criteria 1. The canal has been modified over time to allow continued operations, and the surrounding area has been developed for residential uses associated with the City of Lincoln and rural residences in Placer County. As a result, the integrity of workmanship, design, association, setting and feeling of the Lincoln Canal on the project site have been compromised. Therefore, the Lincoln Canal does not appear eligible for listing under CRHR Criteria 1 or Criteria A of the NRHP.

In addition, Galusha Gray, the early owner of the canal, is not considered a person of particular importance to the history of Placer County or the State of California as a whole, and therefore the canal does not meet Criteria 2 of the CRHR. Criterion 3 of the CRHR concerns unique architectural or engineering resources. Thousands of small earthen ditches and canals exist in California for water diversion. The Lincoln Canal is not considered an outstanding or unusual example of such earthen ditches or canals and, thus, does not meet Criterion 3 of the CRHR. The *Cultural Resources Inventory* concluded that the historic and scientific value of the canal is limited and has been captured through recordation of the physical attributes of the canal. Additionally, the canal is not considered an archaeological feature and is unlikely to contain any archaeological resources. Therefore, the canal does not meet Criterion 4 of the CRHR.

Although the canal meets Criteria 1 of the CRHR, the canal's integrity of workmanship, design, association, setting, and feeling have been compromised by development in the surrounding area as well as modifications and modernizations of the canal overtime. Additionally, the canal does not meet Criteria 2, 3, or 4 of the CRHR. As a result, PAR determined that the portion of the Lincoln Canal on the project site is not eligible for

¹⁷ PAR Environmental Services, Inc. Cultural Resources Inventory, The Proposed Lincoln Meadows Development. June 2016.

listing on the CRHR or the NRHP, and is not considered a historic resource for the purposes of CEQA.¹⁸

Earthen Dam

The remains of a small earthen dam are present on the eastern portion of the project site. The dam is 76 meters (250 feet) long and 1.5 meters (five feet) high. PAR considered several possible explanations for the presence of the dam. The most likely explanation is that the dam was used as a stock pond, similar to other earthen dams and water impoundment features found throughout California. If the dam was used as a stock pond, the dam would have been a part of the original South Yuba Water Canal's reservoir, which was built at the terminus of the Lincoln Canal by Galusha Gray in 1881. Another possible explanation is that the dam was associated with placer mining activity in the area; however, apparent remains of ditches, races, or tailings that are characteristic of mined areas do not exist. In the absence of evidence of placer mining, PAR concluded the dam was most likely a portion of the original South Yuba Water Canal system.

Around 1897 the Lincoln Canal was extended past the dam, which involved the breaching of the dam, and the remains of the earthen dam are now bisected by the existing canal. The proposed project would involve grading of the area where the remains of the earthen dam exist, and subsequent development of the area of the earthen dam with circulation infrastructure and residential housing units.

Similar earthen dams are found throughout California, minor water storage facilities of this type are common, and the existing earthen dam on the project site is not considered unique in architectural or engineering terms. As such, the dam does not meet any NRHP or CRHR criteria and is not considered an historical resource for the purposes of CEQA. In addition, the dam does not retain physical integrity, having been breached by construction of the Lincoln Canal.¹⁹ Because the earthen dams are found throughout California, and the dam is not considered unique, the remains of the earthen dam do not meet any of the CRHR or NRHP criteria and the dam is not considered unique, the remains of the earthen dam do not meet any of the CRHR or NRHP criteria and the dam is not considered an historical resource for the purposes of CEQA.

Virginiatown Road and Hungry Hollow Road

The proposed project would include the annexation of a portion of Virginiatown Road and the annexation of the Hungry Hollow right-of-way from the intersection of Virginatown Road and Hungry Hollow Road to the northern boundary of the intersection of Hungry Hollow Road and Fox Lane. Both Viriginatown Road and Hungry Hollow Roads have existed since at least 1910, and many such roads were constructed in Placer

¹⁸ PAR Environmental Services, Inc. *Cultural Resources Inventory, The Proposed Lincoln Meadows Development.* June 2016.

¹⁹ PAR Environmental Services, Inc. Cultural Resources Inventory, The Proposed Lincoln Meadows Development. June 2016.

County during the late nineteenth century and/or early twentieth century. Because road construction was common during this time, Virginiatown Road and Hungry Hollow Road are not considered to be of particular importance for their role in the history of California, the local area, or Placer County under Criterion A. Neither road is associated with a person of historical importance in the development of the public transportation network of the area or the state, and thus neither road qualifies for listing under Criterion B. The roads are of common construction and design, and do not have scientific value under Criteria C or D. Additionally, both roads have been modified, widened, and paved since their construction over 106 years ago, and they are currently modern roads maintained by Placer County for motor vehicle traffic. Therefore, neither road is eligible for listing under the NRHP or the CRHR and neither road is considered to be an historical resource for the purposes of CEQA.

Conclusion

Based on the NRHP and CEQA criteria, the Lincoln Canal, earthen dam, Hungry Hollow Road, and Virginatown and Hungry Hollow roads are not eligible for inclusion on the NRHP or the CRHR and are not considered significant per CEQA. Although none of the aforementioned features are considered an historical resource and additional historical resources were not discovered during the field surveys, the potential exists for previously unknown, subsurface historical resources to be discovered on the project site during construction activities involving ground disturbance. As such, the proposed project could result in the disturbance or destruction of historical resources, and thus could result in a *significant* impact.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the impact associated with unknown, subsurface historical resources to a *less-than-significant* level by providing a procedural framework that would ensure the preservation of such resources if inadvertently discovered onsite.

4.4 - 1During construction activities, if any subsurface historic remains are uncovered, all work shall be halted, the City of Lincoln Community Development Department shall be notified, and the applicant shall retain a qualified cultural resources consultant to identify and investigate any subsurface historic remains, and define their physical extent and the nature of any built features or artifact-bearing deposits. The investigation shall proceed immediately into a formal evaluation to determine the eligibility of the feature(s) for the California Register of Historical Resources. The formal evaluation shall include, at a minimum, additional exposure of the feature(s), photo-documentation and recordation, and analysis of the artifact assemblage(s). If the evaluation determines that the features and artifacts do not have sufficient data potential to be eligible for the California Register, additional work shall not be required. However, if data potential exists (e.g., an intact feature is identified with a large and varied artifact assemblage), further mitigation would be necessary, which might include avoidance of further disturbance to the resources through project redesign. If avoidance is determined to be infeasible, additional data recovery shall be conducted for the resources, to collect enough information to exhaust the data potential of those resources. Data recovery efforts can range from photographic documentation to extensive excavation depending upon the physical nature of the resource. The degree of effort shall be determined at the discretion of a qualified cultural resources consultant and should be sufficient to recover data considered important to the area's history.

4.4-2 Cause a substantial adverse change in the significance of a unique archeological resource as defined in CEQA Guidelines, Section 15064.5, or disturb any human remains, including those interred outside of formal cemeteries. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The *Cultural Resources Inventory* prepared by PAR in 2016 included a CHRIS records search. The CHRIS search identified the aforementioned Lincoln Canal and the remains of the earthen dam, but did not identify any other recorded resources on the project site. The closest identified resources to the project site are BRM milling stations and habitation areas; however, the BRM milling stations and habitation areas are outside of the project site and the proposed project would not have the potential to impact such identified resources.²⁰ Additionally, the entire project site was intensively surveyed onfoot by PAR in 2006 and 2016. The pedestrian field survey did not identify any archaeological resources, or evidence indicating the presence of such resources. The Cultural Resources Inventory also included consultation with the NAHC. The NAHC indicated that Sacred Land listings do not exist for the project site or adjacent lands, and the United Auburn Indian Community of the Auburn Rancheria has not expressed concerns regarding tribal cultural resources on the project site. It should be noted that records maintained by the NAHC are not exhaustive, and, thus, the absence of Sacred Lands listings for the proposed project site does not preclude the existence of tribal cultural resources. Therefore, although archeological resources or evidence thereof was not identified, the potential for archeological resources to be discovered during construction cannot be eliminated, given the known prehistoric occupation of the vicinity by Native American tribes.

A field survey completed as part of the *Cultural Resources Inventory* failed to indicate the presence of evidence for human remains or burials within the project site. Although human remains or evidence thereof was not identified, the potential for unknown human remains to be discovered during construction cannot be eliminated, given the known prehistoric occupation of the vicinity by Native American tribes. As such, construction activity related to the proposed project could disturb human remains interred outside of a formal cemetery.

²⁰ PAR Environmental Services, Inc. Cultural Resources Inventory, The Proposed Lincoln Meadows Development. June 2016.

While archeological resources and/or human remains have not been identified on the project site, the possibility exists that previously unknown resources, human remains, or burials could be discovered on the project site during construction activities. Therefore, construction activities associated with buildout of the proposed project could uncover undocumented archaeological resources, human remains, or burials and affect the unique ethnic cultural values of the site. Should areas containing evidence of archeological resources, human remains, or burials be encountered, construction activity could result in a *significant* impact to archeological resources.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level by ensuring that in the event that prehistoric artifacts are discovered, work within the vicinity of such artifacts would be halted and appropriate measures would be taken to minimize impacts to the artifacts. Similarly, if human remains are discovered, such remains would be left in place and free from disturbance until a final decision as to the treatment and disposition of the remains has been made.

4.4-2(a)If any prehistoric artifacts or other indications of archaeological and/or cultural resources are found during grading and construction activities, all work within 100 feet of the find shall cease and the applicant shall retain a qualified archaeologist to evaluate the find(s) and notify the United Auburn Indian Community of the Auburn Rancheria. If the resource is determined to be eligible for inclusion in the California Register of Historical Resources and project impacts cannot be avoided, data recovery shall be undertaken. Pursuant to CEQA Guidelines Section 15126.4(b)(3)(C), a data recovery plan, which makes provisions for adeauately recovering the scientifically consequential information from and about the resource, shall be prepared and adopted prior to any excavation being undertaken. Such studies shall be deposited with the Center. California Historical Resources Regional Information Significance determinations for tribal cultural resources shall be measured in terms of criteria for inclusion on the California Register of Historical Resources (Title 14 CCR, §4852[a]), and the definition of tribal cultural resources set forth in Public Resources Code Section 21074. The evaluation of the tribal cultural resource(s) shall include culturally appropriate temporary and permanent treatment, which may include avoidance of tribal cultural resources, in-place preservation, and/or reburial on project property so the resource(s) are not subject to further disturbance in perpetuity. Any re-burial shall occur at a location predetermined between the landowner and the United Auburn Indian Community of the Auburn Rancheria.

The landowner shall relinquish ownership of all sacred items, burial goods, and all archaeological artifacts that are found on the project site to the United Auburn Indian Community of the Auburn Rancheria for proper treatment and disposition.

If an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation. This language of this mitigation measure shall be included on any future grading plans and utility plans approved by the City of Lincoln for the project site.

4.4-2(b)If human remains of Native American origin are discovered during project construction, further disturbance shall not occur within 100 feet of the vicinity of the find(s) until the Placer County Coroner has made the necessary findings as to origin. (California Health and Safety Code Section 7050.5) Further, pursuant to California Public Resources Code Section 5097.98(b), remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Placer County Coroner determines the remains to be Native American, the Native American Heritage Commission (NAHC) and the United Auburn Indian Community of the Auburn Rancheria must be contacted within 24 hours. The NAHC and United Auburn Indian Community of the Auburn Rancheria must then identify the "most likely descendant(s)" (MLD). The landowner shall engage in consultations with the MLD. The MLD will make recommendations concerning the treatment of the remains within 48 hours, as provided in Public Resources Code 5097.98.

4.4-3 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The proposed project site is underlain by alluvial, or stream, deposits from the Pleistocene or Pliocene. Alluvial deposits are composed of gravels, clays, and silts that were deposited in a stream, delta, or estuary type riverine system. Such deposits are typically not associated with unique geologic features or formations.

Within the City of Lincoln, paleontological resources have not been discovered within the Riverbank Formation that underlies the project site and other portions of the City. However, all Pleistocene non-marine deposits, such as the alluvial or stream derived deposits underlying the project site, have the potential of yielding significant paleontological resources. Although Pleistocene and Pliocene deposits within Placer County as a whole have not yielded many paleontological resources, similar deposits in other counties have yielded significant fossils.²¹ As such, although unlikely, construction activities involving ground disturbance could uncover undocumented paleontological resources. Should areas containing evidence of paleontological resources, such as fossils, be uncovered, continued construction activity could result in a *significant* impact.

²¹ Finger, Kenneth L. Consulting Paleontologist. *Paleontological Assessment of the Lincoln Meadows Project Site, Placer County California*. December 15, 2016.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level by ensuring that if any vertebrate bones or teeth are uncovered during construction, such artifacts would be treated appropriately.

4.4-3 During construction activities, if any vertebrate bones or teeth are found, all work shall be halted in the immediate vicinity of the discovery, and the applicant shall notify the City of Lincoln Community Development Department and retain a qualified paleontologist to inspect the discovery. If deemed significant with respect to authenticity, completeness, preservation, and identification, the resource(s) shall then be salvaged and deposited in an accredited and permanent scientific institution (e.g., University of California Museum of Paleontology), where the discovery would be properly curated and preserved for the benefit of current and future generations. Following the discovery of such paleontological resources and prior to the recommencement of construction activity in the area of discovery, the City of Lincoln's Community Development Department shall further consult with the qualified paleontologist for the consideration and potential implementation of a construction monitoring program for the remainder of the construction activity. The language of this mitigation measure shall be included on any future grading plans, utility plans, and improvement drawings approved by the City of Lincoln *Community Development Department for the proposed project site, where* excavation work would be required.

4.4-4 Directly or indirectly disturb or destroy a unique tribal cultural resource, such as a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American tribe. Based on the analysis below and with implementation of mitigation, the project would have a *less than significant* impact.

The *Cultural Resources Inventory* prepared by PAR for the proposed project site included a field survey and consultation with the NAHC. The field survey conducted by PAR included a 100 percent intensive pedestrian survey, which covered the entire project site. During the field survey, PAR did not identify any tribal cultural resources. Additionally, the NAHC conducted a records search of the Sacred Lands File for the project site. The NAHC did not identify any Sacred Lands on the project site, but the NAHC did provide a list of tribes with traditional lands or cultural places within the project site.

The City of Lincoln conducted consultation with tribes identified by the NAHC as well as tribes that had requested consultation under AB 52. The City sent consultation request letters to the concerned tribes, but did not receive responses within the timeline for AB 52 or SB 18 consultation. However, letters were received from the United Auburn Indian Community of the Auburn Rancheria outside of the consultation period for both SB 18 and AB 52. While the City chose to discontinue consultation with the United Auburn Indian Community of the Auburn Rancheria under SB 18, for reasons discussed in the Methods section of this chapter, the City chose to continue consultation with the United

Auburn Indian Community of the Auburn Rancheria under AB 52. The City agreed to notify the United Auburn Indian Community of the Auburn Rancheria if tribal resources are found in or around the project site.

In addition, previous consultation was conducted with tribes that may have traditional lands or cultural places within the project site in 2006. During the 2006 consultation, contacted tribes were asked to provide information regarding recorded sites, known sacred sites, traditional values, concerns, villages, or ceremonial uses within the project site. At that time, none of the contracted tribes expressed concerns regarding tribal cultural resources on the project site.

Because PAR did not identify any tribal resources during the field survey, the NAHC did not identify any Sacred Lands on the project site, and the contacted tribes did not provide information regarding known tribal cultural resources on the project site, the project is unlikely to disturb or destroy any unique tribal cultural resources. However, the possibility remains that an unknown tribal cultural resource could exist on the project site. If an unknown tribal resource does exist on the project site, construction activities involving ground disturbance would have the potential to disturb or destroy the resource, and thus the proposed project could result in a *significant* impact.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level by ensuring that any tribal cultural resources uncovered during construction activities would be preserved, and consultation would be initiated with the appropriate tribe.

4.4-4 Implement Mitigation Measures 4.4-2(a) and (b) and 4.4-3.

Cumulative Impacts and Mitigation Measures

The following discussion of cumulative impacts is based on the implementation of the proposed project in combination with other proposed and pending projects in the region. Other proposed and pending projects in the region under the cumulative context would include buildout of the City's General Plan, as well as development of the most recent planned land uses within the vicinity of the project site. Refer to Chapter 5, Statutorily Required Sections, of this EIR for more detail.

4.4-5 Cumulative development in the City of Lincoln, in conjunction with the development of the proposed project, could contribute incrementally to the regional loss of cultural resources in the City of Lincoln. Based on the analysis below, the project would have a *less-than-significant* cumulative impact.

While some cultural resources may have regional significance, the resources themselves are site-specific, and impacts to them are project-specific. For example, impacts to a subsurface archeological find at one project site are generally not made worse by impacts from another project to a cultural resource at another site. Rather the resources and the effects upon them are generally independent. A possible exception to this would be a cultural resource that represents the last known example of its kind or is part of larger cultural resources such as a single building along an intact historic Main Street. For such a resource, cumulative impacts, and the contribution of the proposed project to them, may be cumulatively significant. Such is not the case for the proposed project. The site-specific cultural resources analysis did not identify any known resources within the area of potential effect for the project. Notwithstanding this, as noted above in Impacts 4.4-1 through 4.4-5, the potential exists for unknown subsurface historic, prehistoric, paleontological, archaeological and/or tribal cultural resources or human remains to be unearthed during site excavation and grading. Implementation of Mitigation Measures 4.4-1 through 4.4-4 would minimize impacts to a less-than-significant level. In addition, such subsurface historic, prehistoric, paleontological, archaeological and/or tribal cultural resources or human remains would be site specific, and potential disturbance of such resources would not create cumulatively considerable impacts.

According to the *City of Lincoln General Plan* Goal OSC 6, new projects must be conducted in a way that respects archaeological, historical, and paleontological resources for their cultural values. Through the completion of a *Cultural Resources Inventory* for the project site, and by conducting tribal consultation throughout the planning process, the proposed project has complied with (and would continue to comply with) all relevant General Plan policies relating to tribal, historical, archaeological, and paleontological resources. Future developments in the City of Lincoln would also be required to adhere to the applicable General Plan goals and policies.

The *Cultural Resources Inventory* conducted by PAR did not find any recorded prehistoric or archaeological deposits in the area researched. In addition, although buildout of the proposed project could result in impacts to historical or prehistoric resources, if previously unidentified cultural resources are discovered during construction and damaged, impacts to historical or prehistoric resources are site- and project-specific. Any potential impacts resultant of the proposed project would only affect undiscovered cultural resources located at the project site. Similarly, any potential impacts to cultural resources due to individual developments in the City would be project- and site-specific and would not affect other sites throughout the City. Therefore, development of the proposed project would result in a *less-than-cumulatively considerable* impact related to the regional loss of cultural resources in the City of Lincoln.

Mitigation Measure(s) None required.

4.5 SOILS, GEOLOGY, AND SEISMICITY

SOILS, GEOLOGY, AND SEISMICITY

4.5.1 INTRODUCTION

The Soils, Geology, and Seismicity chapter of the EIR describes the geologic and soil characteristics of the Lincoln Meadows Project (proposed project) site and evaluates the extent to which implementation of the proposed project could be affected by seismic hazards such as ground shaking, liquefaction, and expansive soil characteristics. This chapter is based on the *City of Lincoln General Plan*¹ and associated EIR,² and the *Preliminary Geotechnical Engineering Investigation* prepared by CTE CAL Inc. (see Appendix I).³

4.5.2 EXISTING ENVIRONMENTAL SETTING

Background setting information on the regional geology, project site geology, including project site soils, is provided below.

Regional Geology

The proposed project is situated in western Placer County on the eastern edge of the Sacramento Valley portion of the Great Valley Geomorphic Province. The eastern edge of the Great Valley, where the project site is located, is a geologically young, large, flat-lying plain in the central portion of California.

Placer County is situated in a seismically active area of the State. However, when compared to eastern Placer County, which comprises the Sierra Nevada and associated foothills and coastal areas of the State, western Placer County, where the project site is located, is generally characterized by lower seismicity. Other regional geological conditions of Placer County include the potential for fault surface rupture, ground shaking and liquefaction (during earthquakes), landslides (during earthquakes), expansive soils, and soil erosion.

Regional Seismicity

A fault is defined as a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side. A fault zone is a network of related faults that is commonly braided and subparallel, but may be branching or divergent. Movement within a fault causes an earthquake. When movement occurs along a fault, the energy generated is released as waves that cause ground shaking. Ground shaking intensity varies with

¹ City of Lincoln. 2050 General Plan. Updated March 2008.

² City of Lincoln. General Plan Update Final Environmental Impact Report. February 2008.

³ CTE CAL, Inc. Preliminary Geotechnical Engineering Investigation, Lincoln Meadows Subdivision, NWC Virginiatown and Hungry Hollow Roads, Lincoln, California. February 27, 2015.

the magnitude of the earthquake, the distance from the epicenter, and the type of rock or sediment through which the seismic waves move. Earthquake epicenters often occur on fault lines. The closest active fault is the Cleveland Hill Fault (approximately 37 miles to the north of the project site). The fault zone is indicated to be capable of generating an earthquake on the order of magnitude $5.7.^4$

Project Site Characteristics

The project site is approximately 43.87 acres generally located at the intersection of Virginiatown Road and Hungry Hollow Road in Lincoln, California. Currently, the majority of the site is undeveloped, except for a canal owned by the Nevada Irrigation District, and the portions of Hungry Hollow Road and Virginiatown Road included in the proposed annexation. The average elevation of the site is approximately 200 feet above mean sea level. The topography of the site is relatively flat with irregular water ponding in the form of vernal pools combined with small mounding. The mounds, measure between 50 cm to 1.5 meters (approximately 1.5 feet to 4.9 feet) in diameter in the project area (but highly variable in size overall).

The geologic conditions on the project site are discussed below in further detail, including descriptions of site geology, current soil conditions, seismic conditions, potential for earthquake-induced liquefaction, expansive soils, and underlying groundwater conditions.

Site Geology

The geologic material underlying the project site is alluvial material consisting of eroded sediment transported by wind and water action into the Great Valley from the foothills and Sierra Nevada. The deposits in the area generally consist of fine particles such as poorly-sorted silts, fine sands, and clays. Although coarser particles can be present, such larger sediment is found less frequently. Below the immediate subsurface layer of alluvial material are progressively older deposits of alluvial material, continental and marine deposits, and finally a basement layer of complex granitic and metamorphic rock. As such, surface soil materials are derived from the most recent alluvial deposits.

Soil Conditions

Soils are commonly identified by similar or dissimilar characteristics, such as the erosion potential, shrink-swell properties, permeability, available water capacity, and runoff potentials. CTE CAL completed a field exploration of the project site, which included site reconnaissance, and seven exploratory borings. Near-surface soils encountered during the site explorations consisted of native alluvial deposits, which were composed of medium dense to very dense gravelly clayey sand with variable silt to a depth of approximately five feet below the existing ground surface. Underlying the uppermost soil layer were interlayers of dense to very dense silty sands and clayey sands with variable gravel, sandy clays, and silty sandy gravel containing some

⁴ CTE CAL, Inc. Preliminary Geotechnical Engineering Investigation, Lincoln Meadows Subdivision, NWC Virginiatown and Hungry Hollow Roads, Lincoln, California. February 27, 2015.

lenses of dense silty sand to the maximum depth of exploration, which was 21.5 feet below the existing ground surface. The erodibility of soils generally depends on how easily soil particles can be detached and transported, with soils high in silt content being more erodible than those soils that are high in clay or high in coarse textured particles.⁵ Because the silt content of on-site soils varies throughout the site, the on-site soils are considered moderately erodible.⁶

Expansive Soils

Expansive soils are characterized by their ability to undergo significant volume change due to variation in moisture content. Changes in soil moisture content can result from rainfall, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may cause unacceptable settlement of structures. Soil testing of the uppermost silty clay soils indicated that the clay soils have plasticity indexes ranging from four to 13, and expansion indexes from four to eight. The plasticity and expansion index values indicate that on-site soil has low to very low expansive potential. However, based on the professional opinion of CTE CAL, moderately expansive clays may exist within the project site.⁷

Seismicity

The project site is not located within an Alquist-Priolo Earthquake Fault Zone. According to the Fault Activity Map of California and Adjacent Areas and the Map Index to Alquist-Priolo (Earthquake Hazard) Zones,⁸ active faults are not located on or adjacent to the project site.⁹ The *Preliminary Geotechnical Engineering Investigation* did not note any observed evidence of recent or active faulting during the field reconnaissance for the proposed project. As such, the potential for ground rupture is considered low.¹⁰ However, the site is located in an area where shaking from earthquake generated ground motion waves should be considered likely. Although the closest portion of an Alquist-Priolo active fault is the Cleveland Hill fault 37 miles away, seismic shaking generated by a strong earthquake along the Cleveland Hill fault or any other fault within the region may affect the site, depending on the characteristics of the earthquake and the location of the epicenter.¹¹ In general, the effects would be confined to those phenomena associated with shaking and/or ground acceleration.

⁵ Natural Resources Conservation Service. *Highly Erodible Land Definitions*. Available at: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/pr/soils/?cid=nrcs141p2_037282. Accessed October 5, 2016.

⁶ CTE CAL, Inc. Preliminary Geotechnical Engineering Investigation, Lincoln Meadows Subdivision, NWC Virginiatown and Hungry Hollow Roads, Lincoln, California. February 27, 2015.

⁷ Ibid.

⁸ California Department of Conservation. *Fault Activity Map of California (2010)*. Available at: http://maps.conservation.ca.gov/cgs/fam/. Accessed October 5, 2016.

⁹ CTE CAL, Inc. Preliminary Geotechnical Engineering Investigation, Lincoln Meadows Subdivision, NWC Virginiatown and Hungry Hollow Roads, Lincoln, California. February 27, 2015.

¹⁰ *Ibid*.

¹¹ CTE CAL, Inc. Preliminary Geotechnical Engineering Investigation, Lincoln Meadows Subdivision, NWC Virginiatown and Hungry Hollow Roads, Lincoln, California. February 27, 2015.

Liquefaction

Liquefaction is a phenomenon in which certain soils, when saturated with water and subjected to considerable seismic events, temporarily lose their solid structure and effectively move as a liquid, resulting in ground failure. Soil types located in areas with high groundwater tables or high rainfall and composed of sands and sandy loams are subject to liquefaction during seismic events. Research has shown that saturated, loose to medium-dense sands with a silt content less than about 25 percent located within the top 40 feet are most susceptible to liquefaction and surface rupture/lateral spreading. Based upon the alluvial nature of the geologic material underlying the project site and the subsurface information which identified generally dense to very dense silty and clayey sand soils, saturated and loose fine sands/silts that are considered liquefiable do not underlie the project site.¹²

Groundwater

The depth to groundwater was determined to be approximately 80 to 85 feet below the existing ground surface by a previous study prepared by Luhdorff and Scalmanini Consulting Engineers for the project area.¹³ Only one of the soil borings encountered groundwater, which at the time of drilling was found to be at nine feet below the existing ground surface. According to CTE CAL, the relatively shallow groundwater encountered during one of seven soil borings was due to groundwater being perched above a localized silty sandy gravel layer, and free groundwater was not observed in any of the other borings.¹⁴

4.5.3 REGULATORY CONTEXT

The following section is a brief summary of the regulatory context under which soils, geology, and seismic hazards are managed at the federal, state, and local levels.

Federal Regulations

Federal Earthquake Hazards Reduction Act

Passed by Congress in 1977, the Federal Earthquake Hazards Reduction Act is intended to reduce the risks to life and property from future earthquakes. The Act established the National Earthquake Hazards Reduction Program (NEHRP). The goals of NEHRP are to educate and improve the knowledge base for predicting seismic hazards, improve land use practices and building codes, and to reduce earthquake hazards through improved design and construction techniques.

¹² *Ibid*.

¹³ Luhdorff and Scalmanini Consulting Engineers. South Sutter Water District Groundwater Management Plan. October 2009.

¹⁴ CTE CAL, Inc. Preliminary Geotechnical Engineering Investigation, Lincoln Meadows Subdivision, NWC Virginiatown and Hungry Hollow Roads, Lincoln, California. February 27, 2015.

State Regulations

The following are the State environmental laws and policies relevant to soils, geology, and seismic hazards.

Alquist-Priolo Earthquake Fault Zoning Act

The 1972 Alquist-Priolo Earthquake Fault Zoning Act (AP Zone Act) was passed to prevent the new development of buildings and structures for human occupancy on the surface of active faults. The AP Zone Act regulates development near active faults so as to mitigate the hazard of surface fault rupture, but does not address other forms of earthquake hazards. The AP Zone Act requires that the State Geologist (Chief of the CDMG) delineate "special study zones" along known active faults in California. Local agencies such as cities and counties affected by these zones must regulate certain development projects within the appropriate zones in their jurisdiction.

The AP Zone Act prohibits the development of structures for human occupancy across the traces of active faults. According to the AP Zone Act, active faults have experienced surface displacement during the last 11,000 years. Potentially active faults are those that show evidence of surface displacement during the last 1.6 million years. A fault may be presumed to be inactive based on satisfactory geologic evidence; however, the evidence necessary to prove inactivity sometimes is difficult to obtain and may not exist locally.

California Building Standards Code

The California Building Standards Commission is responsible for coordinating, managing, adopting, and approving building codes in California. The State of California provides minimum standards for building design through the 2016 California Building Code (CBC) (CCR Title 24). Where other building codes do not apply, Chapter 29 of the CBC regulates excavation, foundations, and retaining walls.

The 2016 CBC is based on the 2015 International Building Code (IBC) published by the International Code Conference. In addition, the CBC contains necessary California amendments, which are based on reference standards obtained from various technical committees and organizations such as the American Society of Civil Engineers (ASCE), the American Institute of Steel Construction (AISC), and the American Concrete Institute (ACI). ASCE Minimum Design Standards 7-05 provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (flood, snow, wind, etc.) for inclusion into building codes. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California and have been adopted by the City of Lincoln by Municipal Code.

The State earthquake protection law (California Health and Safety Code Section 19100 et seq.) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. The earthquake design requirements take into account the occupancy category

of the structure, site class, soil classifications, and various seismic coefficients, which are used to determine a Seismic Design Category (SDC) for a project, as described in Chapter 16 of the CBC. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site and ranges from SDC A (very small seismic vulnerability) to SDC E (very high seismic vulnerability and near a major fault). Design specifications are then determined according to the SDC in accordance with Chapter 16 of the CBC. The CBC philosophy focuses on "collapse prevention," meaning that structures are designed for prevention of collapse for the maximum level of ground shaking that could reasonably be expected to occur at a site. Chapter 16 of the CBC specifies exactly how each seismic design category is to be determined on a site-specific basis through the site-specific soil characteristics and proximity to potential seismic hazards.

Chapter 18 of the CBC regulates the excavation of foundations and retaining walls as well as the preparation of a preliminary soil report, engineering geologic report, geotechnical report, and supplemental ground-response report. Chapter 18 also regulates analysis of expansive soils and the determination of the depth to groundwater table. Chapter 18 also requires an evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss, and lateral movement or reduction in foundation soil-bearing capacity, as well as mitigation measures to be considered in structural design. Mitigation measures may include ground stabilization, selection of appropriate foundation type and depths, selection of appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. The potential for liquefaction and soil strength loss must be evaluated for site-specific peak ground acceleration magnitudes and source characteristics consistent with the design earthquake ground motions. Peak ground acceleration must be determined from a site-specific study, the contents of which are specified in CBC Chapter 18.

Finally, Appendix J of the CBC regulates grading activities, including drainage and erosion control and construction on unstable soils, such as expansive soils and areas subject to liquefaction.

Seismic Hazards Mapping Act

The California Seismic Hazards Mapping Act of 1990 (California Public Resources Code Section1690-2699.6) addresses non-surface rupture earthquake hazards, including liquefaction, induced landslides, and subsidence. A mapping program is also established by this Act, which identifies areas within California that have the potential to be affected by such non-surface rupture hazards. The Seismic Hazards Mapping Act specifies that the lead agency for a project may withhold development permits until geologic or soils investigations are conducted for specific sites and mitigation measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils. The California Geological Survey, which is responsible for preparing the maps, has not published seismic hazard maps for Placer County.

Local Regulations

The following are the local government's environmental policies related to soils, geology, and seismic hazards.

City of Lincoln General Plan

Chapter 6, General Plan Policy Consistency, identifies adopted General Plan policies that are relevant to the evaluation of soils, geology, and seismicity and an evaluation of consistency with those policies. No inconsistencies with the General Plan policies are identified. However, while City staff has done its best to ascertain consistency, the Lincoln City Council makes the ultimate decision regarding consistency with the General Plan.

4.5.4 IMPACTS AND MITIGATION MEASURES

This section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to soils, geology, and seismicity.

Standards of Significance

The following thresholds of significance related to soils, geology, and seismicity are derived from the criteria listed in Appendix G of the State CEQA Guidelines.

Impacts resulting from the project would be considered significant if the project would:

- Expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map;
 - Strong seismic ground shaking;
 - Seismic-related ground failure, including liquefaction; and/or
 - Landslides.
- Result in substantial soil erosion or the loss of top soil;
- 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 landslides, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Section 1803.5.3 of the Uniform Building Code, creating substantial risks to life or property; or
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Issues Not Discussed Further

As discussed in the Initial Study prepared for the proposed project (see Appendix C), known active faults do not exist in the Lincoln planning area or within the western Placer County area, and the project site is not located in an Alquist-Priolo Earthquake Fault Zone. As also discussed in the Initial Study, the project site is relatively flat, with elevations ranging from 197 to 219 feet above mean sea level. There would be no risk of landslide hazard. The Initial Study also states that the proposed project would be served by a municipal sewer collection system that would

connect to the lines that convey wastewater to the City of Lincoln Wastewater Treatment and Reclamation Facility (WWTRF) on Fiddyment Road. As such, septic tanks or alternative wastewater disposal systems would not be used as part of the project. For the aforementioned reasons, the Initial Study prepared for the proposed project determined that development of the proposed project would result in no impact related to the following:

- Expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map; Landslides; and;
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Accordingly, impacts related to the above are not further analyzed or discussed in this EIR chapter.

Method of Analysis

The analysis of the proposed project's impacts related to geology and soils is primarily based on the *Preliminary Geotechnical Engineering Investigation* prepared by CTE CAL, Inc. The *Preliminary Geotechnical Engineering Investigation* prepared for the project site consisted of the following analytical tasks:

- Review of readily available geologic reports and documents pertinent to the site area;
- Field investigations;
- Laboratory testing;
- Determination of the general geology and evaluation of potential geologic seismic hazards at the site; and
- Preparation of a report describing the investigations performed and providing opinions/conclusions and geotechnical engineering recommendations for design and construction.

Field investigation of the project site included the excavation of seven exploratory borings. Five of the borings were excavated to depths of 11.5 feet, while the remaining two borings were excavated to depths of 21.5 feet. A total of 28 samples were collected from the seven borings. The samples were taken at depth intervals of five feet or less by driving the samplers into the bottom of the borehole. Field loggings were made, which included classification of soil, visual observations and other field testing procedures. Additionally, soil samples were collected from the drive samplers and contained in capped, stainless steel sample tubes or placed in sealable bags.

Once collected, representative soil samples were further tested. Tests included determining soil moisture content, dry density, plasticity, R-value, and particle size distribution. Field tests indicated and particle size distribution tests confirmed that some of the soils in the uppermost

soil layers were silty clay soils. Silty clay soils can be expansive, and such soils in the uppermost layers of soil would have the potential to cause the greatest impacts to proposed development. Because areas of the uppermost soil layers were determined to be silty clay, Atterberg limits tests, which determine soil plasticity and thus the expansive potential of soils, were performed on various near-surface samples.

Project-Specific Impacts and Mitigation Measures

If significant impacts are identified for the construction and operational phases of the proposed project, recommended mitigation measures have been included to reduce the identified impacts to less-than-significant levels.

4.5-1 Expose people or structures to potential substantial adverse effects, including risk of loss, injury, or death due to strong seismic ground shaking or liquefaction. Based on the analysis below, the impact is *less than significant*.

Although the risk from seismic activity is relatively low for Placer County, relative to other parts of California, seismic activity could occur in the project area, and thus shaking from seismic waves should be considered likely. According to the *Preliminary Geotechnical Engineering Investigation* and the Risk Category of the proposed structures, the project site is considered to be in Seismic Design Category B. A Seismic Design Category of B indicates that the proposed development has a low to moderate seismic vulnerability, and that compliance with CBC requirements would ensure the improvements could withstand anticipated ground shaking.¹⁵

While the CBC requirements would ensure that general structural guidelines are met to ensure that proposed structures withstand anticipated ground shaking, the *Preliminary Geotechnical Engineering Investigation* included site-specific recommendations to augment the CBC requirements. Recommendations and design considerations included site preparation measures to ensure that subsurface materials and any fill materials used meet compaction requirements, as well as recommendations related to which foundation design systems would be most appropriate for the site conditions and proposed improvements.¹⁶ Adherence to the CBC requirements as well as the specific design recommendations set forth in the *Preliminary Geotechnical Engineering Investigation* would ensure that proposed structures would be adequately designed to withstand anticipated ground shaking.

Liquefaction occurs when saturated fine-grained sands and/or silts lose their physical strength temporarily during earthquake-induced shaking and behave as a liquid. The loss of strength is due to the loss of point-to-point grain contact within the soil and transfer of stress to the pore water. Liquefaction potential varies with groundwater level, soil type, material gradation, relative density and probable intensity and duration of seismically

¹⁵ CTE CAL, Inc. Preliminary Geotechnical Engineering Investigation, Lincoln Meadows Subdivision, NWC Virginiatown and Hungry Hollow Roads, Lincoln, California. February 27, 2015.

¹⁶ *Ibid*.

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induced ground shaking. According to the *Preliminary Geotechnical Engineering Investigation*, the project area is not included in any maps of potential liquefaction hazard, and historical records of liquefaction at the project site were not found. Subsurface investigation of the project site determined that the site is predominately underlain by generally dense to very dense silty and clayey sand soils with variable gravel to a maximum depth explored of 21.5 feet. Saturated and loose fine sands and/or silts, which are typically considered potentially vulnerable to liquefaction, were not encountered in any subsurface soil exploration. Additionally, CTE CAL concluded that groundwater on the site would generally be between 80 to 85 feet below the ground surface, notwithstanding localized soil irregularities. Therefore, given the soil composition and depth to groundwater, the near-surface soil on the project site does not consist of loose, saturated sands or silts that would be likely to experience liquefaction during earthquakes.¹⁷

Compliance with CBC Seismic Design Category requirements would ensure that proposed structures and future residents would not be subject to increased risk of loss injury or death due to strong seismic ground shaking. Additionally, the lack of near-surface groundwater and the presence of dense to very dense silty and clayey sand soils makes the project site unlikely to experience liquefaction during seismically-induced ground shaking. Considering the above discussion, the proposed project would result in a *less-than-significant* impact.

<u>Mitigation Measure(s)</u> None required

4.5-2 Substantial erosion or the loss of topsoil. Based on the analysis below, the impact is *less than significant*.

The proposed project would involve construction-related activities, including utility excavation, grading, and leveling of the site. During such stages of construction, and prior to overlaying the ground surface with structures, the potential exists for wind or water erosion to occur, which could affect the project area and potentially inadvertently transport eroded soils to downstream drainage facilities or the on-site Lincoln Canal. Although topsoil exposure would be temporary during early construction activities and would cease once development of buildings and structures occurs, in order to minimize the potential for erosion or loss of topsoil at the site during construction, development of the proposed project would be required to comply with the erosion control and permanent site surface drainage elements of the California Building Code. Additionally, the City of Lincoln Municipal Code Chapter 13.30, Construction Storm Water Runoff Control, requires all projects disturbing one or more acres of soil area to obtain coverage under the State Water Resources Control Board's (SWRCB) Construction General Permit. The SWRCB's Construction General Permit requires the development and submittal of a Stormwater Pollution Prevention Plan (SWPPP) to the City prior to the issuance of a grading permit. The SWPPP must identify the Best Management Practices (BMPs) that

¹⁷ *Ibid.*

will be implemented throughout construction of the proposed project to control erosion and subsequent pollutant discharge. The SWPPP is discussed in greater depth in Chapter 4.6, Hydrology and Water Quality, of this EIR.

Upon development of the site with buildings and structures, as well as landscaped ground cover, the amount of exposed soil that may be lost or displaced due to wind or water would be minimized. As such, this would preclude erosion, and erosion would not be considered an issue during operation of the project.

Because the proposed project would comply with all applicable elements of the California Building Code and Chapter 13.30 of the City's Municipal Code, the proposed project would include sufficient erosion control measures during project construction, which would ensure that the proposed project would result in a *less-than-significant* impact.

<u>Mitigation Measure(s)</u> None required

4.5-3 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; or, be located on expansive soil, as defined in Section 1803.5.3 of the Uniform Building Code. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The proposed project includes development of 40-acres of the project site for a planned residential subdivision. The proposed project would include 144 single family units, two landscaping lots, and two open space lots, which would include two stormwater detention basins.

As discussed above, liquefaction typically occurs in loose, cohesionless, and saturated soils. The *Preliminary Geotechnical Engineering Investigation* concluded that on-site soils were primarily dense to very dense, and were not characterized as being loose or cohesionless. Given the lack of loose, cohesionless, and saturated soils, the proposed project would not be located on a soil or geologic unit subject to liquefaction, nor would the proposed project cause a soil or geologic unit to become susceptible to liquefaction. Lateral spreading is a failure within weak soils, typically due to liquefaction, which causes a soil mass to move along a free face, such as an open channel, or down a gentle slope. As such, low risk of liquefaction reduces the risk posed by lateral spreading. Considering the above discussion, the risk from ground failure due to liquefaction and lateral spreading would be considered low.

CTE CAL determined that compressible materials such as surficial organic material, loose soils, undocumented fills, debris, rubble, or rubbish could be present on the project site. Such material would be considered to be compressible, and thus unsuitable for use as structural support. Areas where such compressible material exists would need to overexcavated and replaced with engineered fill in compliance with the recommendations within the *Preliminary Geotechnical Engineering Investigation*. The *Preliminary Geotechnical Engineering Investigation* also included Atterberg limits laboratory testing to determine the expansive potential of on-site soils. The laboratory testing concluded that the soil samples were considered to have a low to very low expansion potential. Despite the results of the Atterberg limit tests, CTE CAL concluded that, given their experience in the area, the potential for portions of the project site to contain moderately expansive clay soils remains. Should such areas of expansive clays exist on the project site, a potential exists for the project foundations to be impacted by expansive soils.

Given the above discussion, the proposed project would not be located on a soil or geologic unit which is currently or would become unstable as a result of the project and potentially result in on or off-site liquefaction or lateral spreading. However, CTE CAL noted that the potential for expansive soils or compressible materials to exist on the project site remains, and if such conditions occur the proposed project may place structures on unstable soil units, which could experience subsidence, or may be expansive. In recognition of the potential for unstable soil units to exist on site, CTE CAL included recommendations within the *Preliminary Geotechnical Engineering Investigation*, which would reduce any potential impacts related to compressible materials or soil and expansive soils. Without the implementation of recommendations from the *Preliminary Geotechnical Engineering Investigation*, the proposed project could involve the placement of structures on unstable soil units due to potentially expansive or compressible soils. As such, the proposed project could result in a *significant* impact.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level by requiring the incorporation of the geotechnical recommendations specified in the Geotechnical Engineering Investigation prepared for the proposed project.

4.5-3 Prior to issuance of a grading permit, the grading plans shall incorporate all geotechnical recommendations specified in the Preliminary Geotechnical Engineering Investigation prepared by CTE CAL (2015) for the proposed project. All grading and foundation plans for the development must be reviewed and approved by the City Engineer and Chief Building Official prior to issuance of grading and building permits in order to ensure that recommendations in the Preliminary Geotechnical Engineering Investigation are properly incorporated and utilized in the project design.

Cumulative Impacts and Mitigation Measures

The following discussion of cumulative impacts is based on the implementation of the proposed project in combination with other proposed and pending projects in the region. Other proposed and pending projects in the region under the cumulative context would include buildout of the City's General Plan, as well as development of the most recent planned land uses within the

vicinity of the project area. Refer to Chapter 5, Statutorily Required Sections, of this EIR for more detail.

4.5-4 Cumulative geological impacts and hazards. Based on the analysis below, the project's incremental contribution to a cumulative impact is *less than cumulatively considerable*.

Some geologic conditions such as seismicity or soil characteristics may affect construction practices, but impacts and mitigation measures related to soils and geology are site-specific and project-specific. For example, impacts resulting from development in an area subject to seismic hazards or on expansive soils at one project site are not worsened by impacts from development at another project site. Rather, the geologic conditions, and the implications of those conditions for each project, are independent. Furthermore, all development projects would be required to comply with all applicable CBC standards, City of Lincoln General Plan policies, and other applicable regulations.

As such, the potential for cumulative impacts related to soils, geology, and seismicity to which implementation of the proposed project might contribute, would be *less than cumulatively considerable*.

Mitigation Measure(s) None required. 4.6 HYDROLOGY AND WATER QUALITY

HYDROLOGY AND WATER QUALITY

4.6.1 INTRODUCTION

The Hydrology and Water Quality chapter of the EIR describes existing drainage patterns on the project site, current storm water flows and storm water infrastructure, and potential for flooding. The chapter also evaluates potential impacts of the proposed project with respect to increases in impervious surface area and associated stormwater flows, degradation of water quality, and increases in on- and off-site flooding. Information used for this chapter was drawn from the *Lincoln Meadows Detention Basin Study* prepared for the proposed project by West Yost Associates (see Appendix J),¹ the *Lincoln Meadows Drain Study* prepared for the proposed project by Baker-Williams (see Appendix K),² the *City of Lincoln General Plan*³ and associated EIR.⁴ Impacts associated with water supply are addressed in Chapter 4.9, Public Services and Utilities, of this EIR.

4.6.2 EXISTING ENVIRONMENTAL SETTING

The section describes the existing hydrological features of the project site and the surrounding region, as well as the water quality of the existing resources in and around the project site.

Regional Hydrologic Setting

The City of Lincoln is located in California's Central Valley, near the foothills of the Sierra Nevada. Average annual rainfall of the area is approximately 19.5 inches. The project site is located within two watersheds: Markham Ravine, and Auburn Ravine. Approximately 30 acres of the project site is located in the Markham Ravine watershed, which drains northwest towards Markham Ravine, while 12 acres of the site are located in the Auburn Ravine watershed, draining south toward Auburn Ravine. Tributaries to Markham Ravine include Clay Creek, Markham Ravine South, and Markham Ravine Central, while tributaries to Auburn Ravine include Orchard Creek and Ingram Slough.

Auburn Ravine flows from the City of Auburn, west through the City of Lincoln, and into Sutter County where it drains into the North Drainage Canal of the Natomas Cross Canal. Approximately 30 square miles drain to the Auburn Ravine with tributaries including Orchard Creek and Ingram Slough. Where Auburn Ravine passes through the City, it makes up the southern border of the downtown Lincoln area. The city limits extend south of Auburn Ravine, and most of the

¹ West Yost Associates. *Technical Memorandum: Lincoln Meadows Detention Basin Study*. October 6, 2016.

² Baker-Williams Engineering Group. *Lincoln Meadows Drain Study*. October 19, 2015.

³ City of Lincoln. 2050 General Plan. Updated March 2008.

⁴ City of Lincoln. General Plan Update Final Environmental Impact Report. February 2008.

developments south of Auburn Ravine were constructed more recently than the downtown Lincoln area.

Markham Ravine drains the central developed areas of the City, as well as areas north of the City that are currently undeveloped or partially developed. The drainage area of Markham Ravine is approximately three square miles, with tributaries including the Markham Ravine South, the Markham Ravine Central, and Clay Creek.

Regional Flooding

Both Auburn Ravine and Markham Ravine have experienced flooding events in the recent past.

Auburn Ravine

Several flooding events involving Auburn Ravine and the tributaries to Auburn Ravine have occurred within the City of Lincoln area. The bridge structures at State Route (SR) 65 and SR 193 were overtopped by flooding in 1986, 1995, and 1997. Further flooding was noted downstream of the City, specifically at the Auburn Ravine crossings for Moore Road and Nelson Lane, west of SR 65.⁵ The project site is located upstream from such locations.

Markham Ravine

Areas of the City most commonly affected by flooding of Markham Ravine are the rural areas where the capacity of existing culverts and bridge crossings are inadequate. While private overcrossing of Markham Ravine, as well as overcrossings at Gladding Road and McCourtney Road are expected to overtop annually, the SR 65 bridge is anticipated to be overtopped by the 10-year storm event and the Union Pacific Railroad Bridge is expected to be overtopped by a 50-year or greater event.⁶ The project site is located upstream from such locations.

Local Hydrologic Setting

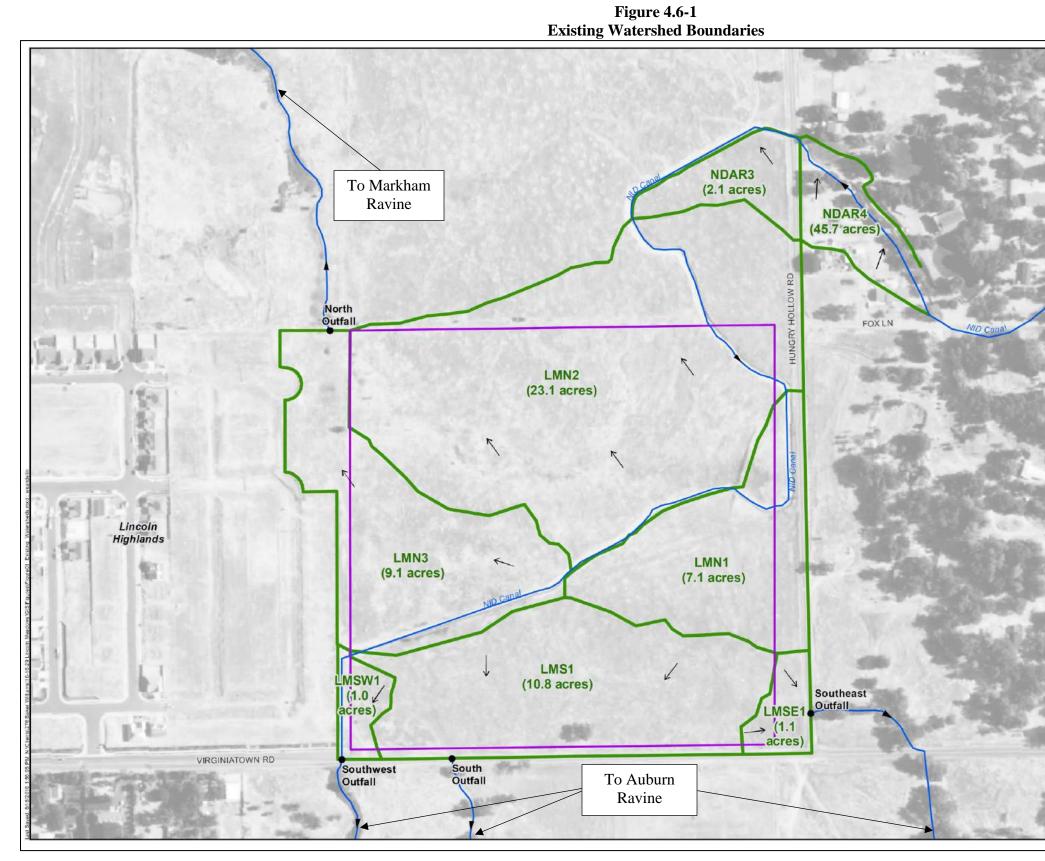
The project site consists of undulating grasslands with elevations ranging from approximately 197 feet to 219 feet. These undulations create several small watersheds (drainage areas), which are depicted on Figure 4.6-1. Runoff travels overland across the site before exiting the project site at the four existing outfall locations shown in Figure 4.6-1.

Existing Outfalls

Three outfalls are located on the southern portion of the site, and a fourth outfall is located on the northwestern corner of the site. The North Outfall receives runoff from drainage areas LMN1 and LMN2, shown in Figure 4.6-1. The North Outfall is a wide, shallow, natural ground swale that eventually drains into the Upper Tributary of Markham Ravine, approximately 1,500 feet northwest of Lincoln Meadows.

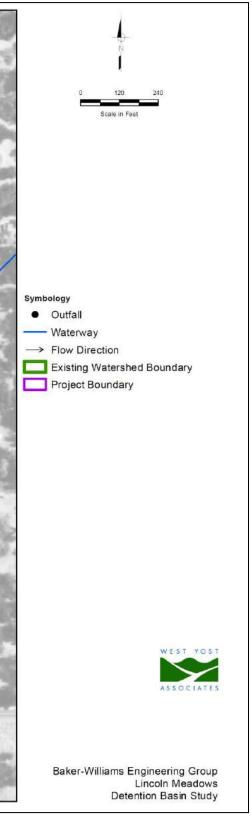
⁵ City of Lincoln. *General Plan Update Final Environmental Impact Report*. February 2008.

⁶ Ibid.



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The Southwest Outfall receives drainage from drainage area LMSW1, which is approximately one acre in size. The Southwest Outfall was developed as part of the adjacent Lincoln Highlands subdivision, and consists of a drain inlet near the southwest corner of the project site, which connects to a 12-inch pipe that crosses under Virginiatown Road.

The South Outfall is located to the south of Virginiatown Road, and drains the 10.8-acre LMS1 drainage area. Runoff from the project site is collected by a drain inlet and piped under Virginiatown Road through a single existing pipe.

Finally, the Southeast Outfall drains the 1.1-acre LMSE1 drainage area. The southeast outfall consists of a culvert, which passes under Hungry Hollow Road, and directs runoff into a swale on the east side of Hungry Hollow Road.

The Lincoln Canal

An irrigation canal, owned by the Nevada Irrigation District (NID), and known as the Lincoln Canal, crosses the project site from the northeast corner to the western edge of the project site (see Figure 4.6-1). Before continuing to the southwest corner of the project site, the canal is replaced by two pipes. The canal is trapezoidal in shape and between 1.5 and 2 feet deep.

Normal flows in the canal are directed into a 10-inch pipe, while the second pipe, which is 18inches in diameter, is used for excess flows that exceed the capacity of the smaller pipe. The Lincoln Canal currently intercepts some of the runoff that would otherwise drain north to Markham Ravine, and redirects the runoff south, towards Auburn Ravine. As such, while the majority of drainage subshed areas LMN2 and LMN3, depicted in Figure 4.6-1, drain to Markham Ravine in the north, the Lincoln Canal intercepts some of the drainage from LMN2 and LMN3. The intercepted runoff from LMN2 and LMN3, as well as runoff from the Lincoln Canal, LMN1, LMS1, LMSW1, and LMSE1 drain to the Auburn Ravine to the south.

A hydraulic model of the NID canal was prepared to estimate the capacity of the canal north of Lincoln Meadows. From that model, it was determined that the bank-full capacity of the canal is approximately 13 cubic feet per second (cfs). Flows in excess of 13 cfs overflow out of the canal and flow to the north and west to Markham Ravine along the natural path of the watershed.

Local Flooding

According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel No. 06061C0402F, the project site is located in an area designated as Zone X, which is outside of a 100-year flood event area.⁷ FIRM panel 06061C0402F indicates that the FEMA flood study ended just northwest of Lincoln Meadows. Lincoln Meadows is at the top of the Markham Ravine shed, upstream of the potential 100-year flood zone limits. In 2015, FEMA released a draft update to the FIRM mapping of the project area, Map Number 06061C0719H. The draft map update for the area includes Auburn Ravine, the project site, and other areas in the project

⁷ Federal Emergency Management Agency. *Flood Insurance Rate Map: Panel No. 06061C0402F*. Effective Date June 08, 1998.

vicinity along the eastern edge of the City of Lincoln. Map Number 06061C0719H shows the project site as being located outside of the Auburn Ravine flood zone, and depicts the project site as being within Zone X.⁸

Water Quality

Water is essential to recreation, the viability of agriculture, and the development of housing, commerce, and industry, as well as the maintenance of high-quality fish and wildlife habitats. Such beneficial uses of water require sufficient water quality, and the Central Valley Regional Water Quality Control Board (CVRWQCB) is charged with protecting the beneficial uses of water throughout the Central Valley, including the City of Lincoln. Various activities and land uses occurring throughout the CVRWQCB area have the potential to contribute pollutants that can affect local and regional water quality. As such, the CVRWQCB has adopted the Central Valley Region Water Quality Control Plan to set water quality objectives for all surface waters in the region, to identify beneficial uses, and to establish policies and provisions for water quality management.

Surface Water Quality

Surface water in the Lincoln area includes streams such as Auburn Ravine, Orchard Creek, Ingram Slough, Markham Ravine, and Pleasant Grove Creek. All of the streams in the Lincoln area originate in the eastern foothills and mountains, before flowing westward and ultimately towards the Sacramento River. Historic development of the area has altered the flow pattern of regional streams from natural seasonal fluctuations to current year-round flows. Because the region has a Mediterranean climate, with wet winters and dry summers, the lowest flows typically occur during the late summer months, prior to winter precipitation. Surface water quality is affected by multiple factors, which can alter the amount of dissolved oxygen, turbidity, drinking water pollutants, toxic constituents, and pathogenic organisms present in the water as well as the presence of odors or nuisance algae forming conditions. Recent studies of Auburn Ravine have determined that the temperature and dissolved oxygen level of Auburn Ravine support a coldwater fishery east of the City. However, after Auburn Ravine passes through the City, dissolved oxygen values decline while turbidity and coliform bacteria levels increase, indicating that an overall decline in water quality occurs as the water passes through the City. The decrease in water quality is most likely due to urban runoff, agricultural activities, septic tank use, land disturbance and other factors related to land uses in the Lincoln Planning Area.⁹

Agricultural and Urban Land Uses

Agricultural land uses that involve the use of fertilizers and pesticides have the potential to allow water runoff from the irrigated fields to carry pollutants downstream. Agricultural activities could also result in erosion of unstabilized soil, especially during conversion of vegetation. Water quality degradation from urban stormwater runoff is primarily the result of runoff carrying pollutants from

⁸ Federal Emergency Management Agency. *Flood Insurance Rate Map: Panel No. 06061C0719H*. Effective Date December 28, 2015.

⁹ City of Lincoln. *General Plan Background Report*. March 2008.

the land surface (i.e., streets, parking lots, pastures) to the receiving waters (i.e., streams and lakes). Pollutants typically found in urban runoff include household and lawn-care chemicals (insecticides, herbicides, fungicides and rodenticides), heavy metals (such as copper, zinc and cadmium), oils and greases, and nutrients (nitrogen and phosphorus).

Groundwater

Groundwater in the Lincoln Planning Area is part of the North American Groundwater sub-basin of the Central Valley groundwater basin. The Central Valley basin extends from Red Bluff, located approximately 100 miles to the north of Lincoln, to Bakersfield, approximately 270 miles south of Lincoln, and averages approximately 40 miles in width. Throughout this 370-mile groundwater area, the aquifer is composed of smaller groundwater basins of varying depth, quality and composition.¹⁰

The North American groundwater basin underlying the City of Lincoln is divided into two aquifer zones by the depth at which the aquifer is found. The deep aquifer system is estimated to be approximately 100 to 400 feet thick within the Lincoln Planning Area, and contains water of excellent quality and low mineral hardness. The deep aquifer is found in the Mehrten geologic unit, which occurs at a minimum depth of 300 feet below the ground surface. The second system, the shallow aquifer system, is of lower quality than the deep aquifer, and can be locally impacted by site-specific hazardous waste or materials spills. The shallow aquifer occupies the upper 200 to 300 feet below ground surface. ¹¹ Groundwater in the City's Planning Area is generally used for agricultural purposes, but is also used for some domestic purposes and as a backup water supply for the City.

Groundwater levels in the Lincoln area were in decline for 40 to 50 years preceding the mid-1980s when groundwater levels began to stabilize. Although groundwater levels around the City have stabilized or improved, areas to the west of Lincoln have shown continued slow declines, especially during the drought years of 2012 to 2015.¹²

The *Preliminary Geotechnical Investigation* prepared by CTE Cal for the proposed project included investigation of the groundwater conditions at the project site.¹³ CTE CAL concluded that groundwater in the area is expected to occur around 80 to 85 feet below the existing ground surface. However, one of the exploratory borings made during the preparation of the *Preliminary Geotechnical Investigation* encountered groundwater at a depth of approximately nine feet below existing ground surface. Because CTE CAL only encountered groundwater in one out of seven borings, CTE CAL concluded that the groundwater encountered at nine feet below existing ground

¹⁰ City of Lincoln. *General Plan Background Report*. March 2008.

¹¹ California Department of Water Resources. *Bulletin 118: Sacramento Valley Groundwater Basin North American Subbasin.* Updated January 1, 2006.

¹² City of Lincoln. City of Lincoln 2015 Urban Water Management Plan: Public Review Draft. June 2016.

¹³ CTE CAL, Inc. *Preliminary Geotechnical Engineering Investigation Lincoln Meadows Subdivision*. February 27, 2015.

surface was perched on a silty sandy gravel layer, and did not represent the general groundwater level of the area.¹⁴

4.6.3 REGULATORY CONTEXT

The following is a description of federal, State, and local environmental laws and policies that are relevant to the review of hydrology and water quality under the California Environmental Quality Act (CEQA) process.

Federal Regulations

The following section includes federal environmental goals and policies relevant to the CEQA review process pertaining to the hydrology and water quality aspects of the proposed project.

Federal Emergency Management Agency (FEMA)

The FEMA is responsible for determining flood elevations and floodplain boundaries based on U.S. Army Corps of Engineers (USACE) studies. FEMA is also responsible for distributing the FIRMS, which are used in the National Flood Insurance Program (NFIP). The FIRMs identify the locations of special flood hazard areas, including the 100-year floodplains.

Federal Clean Water Act

The NPDES permit system was established in the federal Clean Water Act (CWA) to regulate municipal and industrial discharges to surface waters of the U.S. Each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits. Section 307 of the CWA describes the factors that EPA must consider in setting effluent limits for priority pollutants.

Nonpoint sources are diffuse and originate over a wide area rather than from a definable point. Nonpoint pollution often enters receiving water in the form of surface runoff, but is not conveyed by way of pipelines or discrete conveyances. As defined in the federal regulations, such nonpoint sources are generally exempt from federal NPDES permit program requirements. However, two types of nonpoint source discharges are controlled by the NPDES program – nonpoint source discharge caused by general construction activities, and the general quality of stormwater in municipal stormwater systems. The 1987 amendments to the CWA directed the federal EPA to implement the stormwater program in two phases. Phase I addressed discharges from large (population 250,000 or above) and medium (population 100,000 to 250,000) municipalities and certain industrial activities. Phase II addresses all other discharges defined by EPA that are not included in Phase I.

¹⁴ CTE CAL, Inc. Preliminary Geotechnical Engineering Investigation Lincoln Meadows Subdivision. February 27, 2015.

Section 402 of the CWA mandates that certain types of construction activities comply with the requirements of the NPDES stormwater program. The Phase II Rule, issued in 1999, requires that construction activities that disturb land equal to or greater than one acre require permitting under the NPDES program. In California, permitting occurs under the General Permit for Stormwater Discharges Associated with Construction Activity, issued to the State Water Resources Control Board (SWRCB), implemented and enforced by the nine RWQCBs.

As of July 1, 2010, all dischargers with projects that include clearing, grading or stockpiling activities expected to disturb one or more acres of soil are required to obtain compliance under the NPDES Construction General Permit Order 2009-0009-DWQ. The NPDES Construction General Permit Order was subsequently amended by order numbers 2010-0014-DWQ and 2012-006-DWQ. The General Permit requires all dischargers, where construction activity disturbs one or more acres, to take the following measures:

- 1. Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) to include a site map(s) of existing and proposed building and roadway footprints, drainage patterns and storm water collection and discharge points, and pre- and post- project topography;
- 2. Describe types and placement of Best Management Practices (BMPs) in the SWPPP that will be used to protect storm water quality;
- 3. Provide a visual and chemical (if non-visible pollutants are expected) monitoring program for implementation upon BMP failure; and
- 4. Provide a sediment monitoring plan if the area discharges directly to a water body listed on the 303(d) list for sediment.

To obtain coverage, a SWPPP must be submitted to the RWQCB electronically and a copy of the SWPPP must be submitted to the City of Lincoln. When project construction is completed, the landowner must file a Notice of Termination (NOT).

Construction Site Runoff Management

In accordance with NPDES regulations, in order to minimize the potential effects of construction runoff on receiving water quality, the State requires that any construction activity affecting one (1) acre or more must obtain a General Construction Activity Stormwater Permit. Permit applicants are required to prepare a SWPPP and implement BMPs to reduce construction effects on receiving water quality by implementing erosion and sediment control measures.

State Regulations

The following section includes the State regulations relevant to the CEQA review process pertaining to the hydrology and water quality aspects of the proposed project.

State Water Resources Control Board

The SWRCB and the RWQCBs are responsible for ensuring implementation and compliance with the provisions of the federal CWA and California's Porter-Cologne Water Quality Control Act. The project site is situated within the jurisdictional boundaries of the CVRWQCB (Region 5). The

CVRWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within their jurisdiction.

Dewatering activities during construction must comply with the CVRWQCB General Order for Dewatering and other Low Threat Discharges to Surface Waters (General Order No. R5-2008-0081, NPDES No. CAG995001). The General Order prescribes mandatory discharge monitoring requirements and incorporates the requirements of the *California Toxic Rule* and the SWRCB's *Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, also known as the State Implementation Policy. A Notice of Intent must be filed with the CVRWQCB.

Senate Bill 5

Senate Bill (SB) 5, amended in 2007, requires that 200-year flood protection be provided for urban areas (Urban Level of Protection or ULOP) by 2025. SB 5 does not specify any enforcement authority for the urban level of flood protection, but instead relies on the due diligence of cities and counties to incorporate flood risk considerations into floodplain management and planning. A property, development project, or subdivision located in the following geographic areas is subject to the requirement of making a finding related to an ULOP when all of the following conditions apply (an italicized bullet has been added under each finding to describe the applicability of each of these findings to the proposed project):¹⁵

- The site is located within an urban area that is a developed area, as defined by Code of Federal Regulations Title 44, Section 59.1, with 10,000 residents or more, or an urbanizing area that is a developed area or an area outside a developed area that is planned or anticipated to have 10,000 residents or more within the next 10 years.
 - Yes, this criterion is applicable because the population of the City of Lincoln is 42,819.¹⁶
- The site is located within a flood hazard zone that is mapped as either a special hazard area or an area of moderate hazard on FEMA's official (i.e., effective) FIRM for the National Flood Insurance Program (NFIP).
 - No, this criterion does not apply. The project is not located within a FEMA Special Flood Hazard Area (SFHA) per the effective FIRM (FIRM Panel No. 06061C0402F).
- The site is located within the Sacramento-San Joaquin Valley.
 - Yes, this criterion is applicable. All areas west of the Sierra Nevada crest and east of the Coast Ranges, within the area draining to the Sacramento and/or San Joaquin Rivers, meet the criterion of being located within the Sacramento-San Joaquin Valley.
- The site is located within an area with a potential flood depth above 3.0 feet, from sources of flooding other than localized conditions that may occur anywhere in a community, such as localized rainfall, water from stormwater and drainage problems, and water from temporary water and wastewater distribution system failure.

¹⁵ FloodSafe California. Urban Level of Flood Protection Criteria [pg. 2-4]. November 2013.

¹⁶ City of Lincoln. *City of Lincoln General Plan Housing Element 2013-2021*. November 12, 2013.

- No, this criterion does not apply because the project site is outside of the 100-year floodplain as noted in the effective FIRM (No. 06061C0402F).
- The site is located within a watershed with a contributing area of more than 10 square miles.
 - Yes, this criterion is applicable because the project site is located within the Auburn Ravine watershed and the Markham Ravine watershed.

As shown above, two of the SB 5 conditions do not apply to the project. Therefore, the proposed project is not subject to the requirements set forth in SB 5.

Local

The following are the local government's environmental policies related to hydrology and water quality.

City of Lincoln General Plan

Chapter 6, General Plan Policy Consistency, identifies adopted General Plan policies that are relevant to the evaluation of hydrology and water quality and an evaluation of consistency with those policies. No inconsistencies with the General Plan policies are identified. However, while City staff has done its best to ascertain consistency, the Lincoln City Council makes the ultimate decision regarding consistency with the General Plan.

City of Lincoln Stormwater Management Plan

The City has obtained coverage under the NPDES Phase II Small MS4 General Permit that was adopted by the State Water Resources Control Board (Order Number 2013-0001). The City developed a Stormwater Management Plan to control discharges of urban runoff within Lincoln. The City implemented the Stormwater Management Plan through adoption of a stormwater construction ordinance and a stormwater post-construction ordinance, which are included in the City's Municipal Code as Chapter 8.60.

Placer County Stormwater Management Manual

The Placer County Flood Control and Water Conservation District developed the Stormwater Management Manual (SWMM) to confront growing problems associated with urban growth in the County and the resulting stormwater runoff. The SWMM provides consistent, specific guidance and requirements for stormwater management, which includes the regulation of new developments within the County. The manual was revised in 1992, 1994, and in 1997. The City of Lincoln's General Plan Policy PFS-4.11 requires drainage design within the City to adhere to the regulations of the County's SWMM. Policies relevant to the proposed project within the SWMM include:

Goals and Policies

II.C.1.a Design Criteria. Storm drainage planning and design in western Placer County shall adhere to the criteria presented in this manual. However, none of the criteria or

guidelines are intended to substitute for the sound application of fundamental engineering or scientific principles or to conflict with stated goals and policies.

Drainage Systems

- VI.B.2 Design storms. All new development shall be planned and designed so that no damages occur to structures or improvements during the 100-year event and no inundation of private property occurs during the 10-year event.
- VI.B.2.a Local Drainage. The 10-year event is the minimum design storm for new developments in all drainages, and all dedicated drainage facilities will be designed for this event.

Storage Facilities

- VII.C.3 Avoiding Detrimental Effects. No storage facility shall worsen conditions downstream. Any storage facility, especially a detention basin, has the potential for creating worse conditions downstream by altering the timing of peak flows in the stream and its tributaries. In order to avoid detrimental effects, the following alternative measures are suggested.
 - a hydrologic study of the watershed in which the basin would be sited. The downstream limit of the study would be the point beyond which changes in peak flows would not be measurable. Where they exist, watershed models supported by the local jurisdiction or the District should be used.
 - construction of storage basins which limit outflows to the 2-year predevelopment peak flow rate.
 - construction of in-stream detention basins which result in reasonably the same outflow hydrographs as previously existed for the 2-, 10-, 25-, and 100-year events.
- VII.D.1.a Uncertainty in Pre-Development Flows. When storage is to be used to mitigate downstream impacts due to increased flows generated by development of a site, the objective flow shall be taken as the estimated pre-development peak flow rate less 10% of the difference between the estimated pre-development and post-development peak flow rates from the site for all standard design storms ranging in frequency from the 2-year and up to and including 100-year. In no case, however, shall the objective flow be less than 90 percent of the estimated pre-development flow. Figure 7-1 [page VII-4 in the SWMM] presents this criterion graphically.

West Placer County Storm Water Quality Design Manual

The West Placer County Storm Water Quality Design Manual was prepared by Placer County in conjunction with various municipalities within the County, including the City of Lincoln. The central goal of the West Placer County Storm Water Quality Design Manual is to implement programs and establish guidelines to meet the NPDES MS4 General Permit No. CAS0000004.

Furthermore, the West Placer County Storm Water Quality Design Manual incorporates some elements of the Placer County Conservation Plan that can be used to achieve NPDES compliance.

Lincoln Municipal Code

Chapter 13.30, 8.60 and Section 17.28.330 of the City's Municipal Code pertain to pollutant discharge due to land development within the City of Lincoln.

Construction Storm Water Runoff Control

Chapter 13.30 of the City's Municipal Code establishes the City's requirements related to the prevention of construction related discharges of stormwater. The City of Lincoln maintains permitted coverage for pollutant discharge from the City under a Phase II NPDES Permit. Because the City's stormwater system drains directly into the surrounding waterways, the Permit requires that the City regulate discharges of pollutants and non-stormwater discharges into the City's storm water drainage system. Under the City's Permit, all projects creating one acre or more of disturbed soil area are required to obtain coverage under the State Water Resources Control Board's current Construction General Permit.

The Construction General Permit requires the preparation and submittal of a SWPPP prior to the City's issuance of a grading or encroachment permit for a proposed project. Additionally, an Erosion and Sedimentation Control Plan shall be submitted to the City, which identifies all Best Management Practices (BMPs) that will be used throughout construction to control pollutant discharge.¹⁷

Post-Construction Storm Water Runoff Control

Chapter 8.60 of the City's Municipal Code establishes regulations pertaining to post-construction stormwater runoff. Under both the aforementioned NPDES General Permit and the permit obtained under the State of California's Waste Discharge Requirements for Small Municipal Separate Storm Sewer Systems, the City is required to regulate the discharge of pollutants and non-stormwater discharges into the City's stormwater system. The prevention of such pollution can protect the public health and the water quality of nearby watercourses as mandated by the federal Clean Water Act. Prior to the approval of a final improvement plan the applicant shall produce a stormwater management plan identifying how the design standards in Section 8.60.400 are being met by the proposed project. Such standards include but are not limited to the requirement that post-development peak stormwater runoff discharge rates do not exceed the estimated pre-development rate, and project design must minimize the discharge of pollutants to the maximum extent practicable. Chapter 8.60 further allows for the establishment of an inspection program to ensure stormwater treatment controls are in good repair, and allows for enforcement and penalties in the event that projects violate the terms of Chapter 8.60.

¹⁷ City of Lincoln. Ordinance No. 876B Construction Storm Water Runoff Control. January 22, 2013.

Lot Drainage and Erosion Control

Section 17.28.330 of the City's Municipal Code includes regulations for subdivisions within the City. Regulations include the provision of proper erosion control, including the prevention of sedimentation or damage to off-site property, and the requirement that all lots must be graded to provide adequate drainage.

4.6.4 IMPACTS AND MITIGATION MEASURES

This section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to hydrology and water quality.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, a significant impact would occur if the proposed project would result in any of the following:

- Substantially alter the existing drainage pattern of the site or area;
- 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;
- Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or flood hazard delineation map, or place within a 100-year floodplain structures which would impede or redirect flood flows; or
- 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; or
- Inundation by seiche, tsunami, or mudflow.

The proposed project's impacts associated with water supply and capacity are further addressed in Section 4.9, *Public Services and Utilities*, of this EIR.

Issues Not Discussed Further

As discussed in the Initial Study prepared for the proposed project (see Appendix C), the project area is not located near any large bodies of water that would pose a seiche or tsunami hazard. The project site is relatively flat and is not located near any physical or geologic features that would produce a mudflow hazard. Furthermore, the project site is located in Zone X, which is described by FEMA as an area of minimal flood hazard, usually above the 500-year flood level. ¹⁸ Therefore the project site is outside of the 100-year floodplain, and would not place housing within a 100-year flood hazard zone nor place structures within a 100-year floodplain that would impede or

¹⁸ Federal Emergency Management Agency. *Flood Insurance Rate Map Number 06061C0719H*. December 12, 2015.

redirect flood flows, and restrictions on development or special requirements associated with flooding are not requisite for the project. For the aforementioned reasons, the Initial Study prepared for the proposed project determined that development of the proposed project would result in no impact related to the following:

- Inundation by seiche, tsunami, or mudflow; and
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or flood hazard delineation map, or place within a 100-year floodplain structures which would impede or redirect flood flows.

Accordingly, impacts related to the above are not further analyzed or discussed in this EIR chapter.

Method of Analysis

Baker-Williams performed an analysis to size the project's detention basins for stormwater quality and hydromodification management. West Yost prepared a hydrologic and hydraulic analysis to determine the detention volume required to provide mitigation for potential flood impacts from the project. The results of these studies are incorporated into the impact analysis.

Baker-Williams Drain Study

Baker-Williams prepared the *Lincoln Meadows Drain Study* Technical Memorandum for the proposed project.¹⁹ The Technical Memorandum presented the initial design and calculations completed for stormwater infrastructure proposed for inclusion in the proposed project. Calculations for the *Lincoln Meadows Drain Study* were completed in accordance with the Placer County Stormwater Management Manual. Pipe sizes were evaluated for the ten-year storm event.

West Yost Technical Memorandum

West Yost's Technical Memorandum included hydrologic modeling for the proposed project (both pre-project and post-project conditions) using HEC-1 hydrologic models that West Yost developed based on the Placer County guidelines within the *West Placer Storm Water Quality Design Manual.*²⁰ As required for detention basin analysis, West Yost used the models to calculate flow hydrographs for the ten-year, 25-year, and 100-year storm events within a 24-hour duration. Normally, the 2-year storm would be evaluated also. However, the hydromodification design is intended to control the smaller storm events through infiltration and storage within stormwater control features that include a layer of gravel and a layer of mulch. Therefore, the 2-year storm event was assumed to be controlled with these design features and it was not evaluated as a part of this flood control study.

The post-project HEC-1 models were used to calculate flood flows from the project site without including the effects of detention storage. The detention basins were evaluated with an XP-SWMM

¹⁹ Baker-Williams Engineering Group. *Lincoln Meadows Drain Study*. October 19, 2015.

²⁰ West Yost Associates. *Technical Memorandum: Lincoln Meadows Detention Basin Study*. October 6, 2016.

hydraulic model. The post-project flood flows calculated with HEC-1 were used as input to the XP-SWMM models.

The detention basins have been designed to provide stormwater quality treatment and hydromodification management in compliance with the West Placer Storm Water Quality Design Manual²¹ and flood control detention in compliance with the Placer County Flood Control and Water Conservation District's Stormwater Management Manual.²²

A hydraulic model of the NID canal was prepared using XP-SWMM to estimate the capacity of the canal north of Lincoln Meadows. From that model, bank-full capacity of the canal was determined to be approximately 13 cfs. Flows in excess of 13 cfs will overflow out of the canal and flow to the north and west to Markham Ravine along the natural path of the watershed. For the Lincoln Meadows hydrologic modeling, all flow in the NID Canal up to 13 cfs was assumed to flow through Lincoln Meadows to the southwest corner of the project and on to Auburn Ravine.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on the implementation of the proposed project in comparison with the standards of significance identified above.

4.6-1 Substantially alter the existing drainage pattern of the site or area, or create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems. Based on the analysis below, the impact is *less than significant*.

The project site is primarily open grassland, and includes portions of Hungry Hollow Road and Virginiatown Road as well as the NID Lincoln Canal. The paved portions of Hungry Hollow Road and Virginiatown Road are the only existing impervious surfaces within the project site. As shown in Figure 4.6-1 above, the NID Lincoln Canal currently bisects several drainage areas, which redirects portions of the on-site runoff. Because the majority of the site is undeveloped grassland, stormwater infiltration occurs over much of the site, with excess stormwater runoff flowing overland in the directions indicated in Figure 4.6-1.

The proposed project would involve grading on the site, undergrounding the NID Lincoln Canal as the canal passes through the site, and the construction of 144 single-family residential units. Additionally, improvements would be made to Virginiatown Road and Hungry Hollow Road. Project components such as the roofs of proposed structures, paved parking areas, and paved sidewalks would inhibit stormwater infiltration on-site, thus contributing to increased stormwater runoff from the project site. Implementation of the proposed project could result in changes to the peak stormwater flows from the site as shown in Table 4.6-1.

²¹ Baker-Williams Engineering Group. *Lincoln Meadows Drain Study*. October 19, 2015.

²² West Yost Associates. *Technical Memorandum: Lincoln Meadows Detention Basin Study*. October 6, 2016.

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Table 4.6-1 Calculated Peak Outflows (cubic feet per second)													
	Ten-Year Peak Flow				25-Year Peak Flow				100-Year Peak Flow				
Subshed	Existing	Post Project	Target Output	Post Project with Detention Basin	Existing	Post Project	Target Output	Post Project with Detention Basin	Existing	Post Project	Target Output	Post Project with Detention Basin	
North Outfall	35	51	33	33	49	68	47	44	70	100	66	62	
Southwest Outfall	14	14	14	No Detention Required	14	14	14	No Detention Required	14	14	14	No Detention Required	
South Outfall	9	13	8	8	13	18	12	11	18	25	17	16	
Southeast Outfall	1	1	1	No Detention Required	2	1	2	No Detention Required	3	2	3	No Detention Required	
Source: West	Source: West Yost Associates. Technical Memorandum: Lincoln Meadows Detention Basin Study. October 6, 2016.												

The proposed changes to impervious surface area within the project site would have the potential to result in changes to the peak flow rates from the project site, including increases to such outflows, under the 10-, 25-, and 100-year peak flow events. The calculated peak flows at each of the four outfalls, where flows exit the project site, are shown in Table 4.6-1.

In recognition of the potential alteration of drainage patterns that could occur with implementation of the proposed project, two detention basins have been included in the proposed project. As shown in Figure 3-5 of the Project Description chapter of this EIR, the detention basins would be located on the western portion of the project site.

Detention Basin Analysis

Two detention basins are included in the proposed project, one near the northwestern end of the project site and one at the southwestern end of the site, as shown in Figure 4.6-2, below. Stormwater runoff from the basin in the northwestern part of the site would flow from the detention basin through the existing North Outfall towards Markham Ravine. Stormwater flows from the basin in the southwestern part of the site would discharge through the existing South Outfall towards Auburn Ravine.

As indicated in Table 4.6-1, detention would not be required for stormwater flows conveyed to the existing outfalls in the southeastern and southwestern part of the site. Flows from these outfalls would be directed towards Auburn Ravine, as further described in the outfalls section below.

North Detention Basin

As shown in Table 4.6-1, the post-project peak flood flows at the North Outfall would increase by roughly 50 percent over the existing peak flows without construction of a detention basin.²³ The north detention basin would reduce such peak flows by accepting drainage from LMNP1, LMNP3, and LMNP2, which was assumed to include portions of the eastern half of Hungry Hollow Road following full improvement of the road. Baker-Williams sized the basin to provide stormwater quality and hydromodification²⁴ treatment for the drainage area flowing to the North Outfall.²⁵

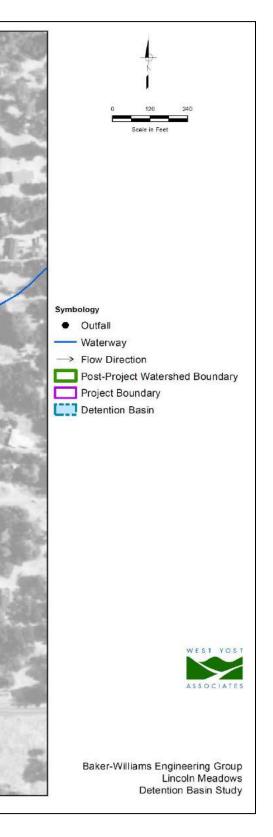
²³ West Yost Associates. *Technical Memorandum: Lincoln Meadows Detention Basin Study*. October 6, 2016.

²⁴ Hydromodification can be defined as the change in the natural hydrologic processes and runoff characteristics (i.e. interception, infiltration, overland flow, interflow and groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and changes in sediment transport. In addition, alteration of stream and river channels, installation of dams and water impoundments, and excessive streambank and shoreline erosion are also considered hydromodification, due to their disruption of natural watershed hydrologic processes. The extent of hydromodification can be quantified by observing the change of the flow-duration curve (representing the change in discharge over time) for a given section from an initial condition to one that results from human-influenced modifications in the watershed.

²⁵ Baker-Williams Engineering Group. *Lincoln Meadows Drain Study*. October 19, 2015.

Figure 4.6-2 **Post-Project Site Drainage** NDAR3 (2.1 acres) NDAR4 (45.7 acres) LMNP1 (5.2 acres) LMNP5 North Outfall (0.9 acres) FOXLN R.L. North - Detention Basin 4 NID Canal to be abandoned and piped through project LMNP3 (6.3 acres) 4-LMNP2 (21.8 acres) 1 200 劉川 Lincoln Highlands 19 ~ LMNP4 (9.1 acres) K LMSEP ~ LMSWP1 (0.7 (1.1 LMSP2 LMSP1 5 acres South (7.7 acres) • Southeast Outfall - Detention L'E (2.1 acres) Basin South Outfall VIRGINIATOWN RD LMSP3 Southwest Outfall (0.6 acres)

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The design of the detention basin would allow for stormwater quality and hydromodification treatment through the inclusion of a layer of permeable engineered soil, underlain by a permeable aggregate base on top of natural soils underlying the entire basin.

Table 4.6-1 above, presents the outflows that would occur at the North Outfall following construction of the proposed project including detention basins. As shown in Table 4.6-1, construction of the north detention basin as part of the proposed project would achieve the flow attenuation required to meet the target outflows at the North Outfall. In addition, the grading plan for the project will be designed such that the proposed pads will have a minimum of two feet of freeboard to the maximum 100-year water surface elevation in the north detention basin.²⁶ Two 36-inch pipes will convey flows out of the detention basin to a wide swale that will convey runoff to the North Outfall.

South Detention Basin

As shown in Table 4.6-1, the post-project peak flood flows at the South Outfall would increase by roughly 40 to 50 percent over the existing peak flows without construction of a detention basin.²⁷ The south detention basin would reduce such peak flows by accepting drainage from post-project subsheds LMSP1 and LMSP3, which includes the north half of Virginiatown Road, assuming full roadway improvements, and the southern portion of Hungry Hollow Road. The south detention basin would be designed similarly to the north detention basin, with permeable soil layers and aggregates allowing for stormwater quality and hydromodification treatment. The south detention basin would be connected to the existing south outfall through three pipes underneath Virginiatown Road.

Table 4.6-1, above, presents the outflows that would occur at the South Outfall following construction of the proposed project including detention basins. As shown in Table 4.6-1 construction of the south detention basin as part of the proposed project would achieve the flow attenuation required to meet the target outflows at the South Outfall. Similar to the north detention basin, the grading plan for the project will be designed such that the proposed pads will have a minimum of two feet of freeboard to the maximum 100-year water surface elevation in the southern detention basin.²⁸

Stormwater Outfalls

The 1.1-acre post-project southwest shed, shown in Figure 4.6-2, would continue to drain to the drain inlet (DI) in Virginiatown Road, which was built as part of Lincoln Highlands. A 12-inch reinforced concrete pipe exits this DI, crosses under Virginiatown Road and daylights via the Southwest Outfall into a swale that drains into Auburn Ravine. As shown in Table 4.6-1, post-project peak flows at the Southwest Outfall would be equal to pre-project peak flows and no detention is required.

²⁶ West Yost Associates. *Technical Memorandum: Lincoln Meadows Detention Basin Study*. October 6, 2016.

²⁷ *Ibid*.

²⁸ West Yost Associates. *Technical Memorandum: Lincoln Meadows Detention Basin Study*. October 6, 2016.

The 0.7-acre post-project southeastern shed currently drains to a culvert under Hungry Hollow Road, which daylights via the Southeast Outfall into a swale that drains into Auburn Ravine. The developed southeast shed would be comprised of Lot D (Open Space), pavement widening, and landscape corridor for Hungry Hollow Road. As shown in Table 4.6-1, detention would not be required for the post-project condition. A filter DI would be installed to treat the road runoff; and a replacement pipe exiting the DI would be installed in the same location as the existing culvert. Rip rap at the end of the pipe would provide dissipation.

The South Outfall currently connects to a single drain pipe under Virginiatown Road and conveys flows from the project site into Auburn Ravine. Under the post-project condition, the south outfall would convey treated runoff from the proposed south detention basin. The project would replace the single drain pipe under Virginiatown Road with three, 15-inch pipes, which would daylight in the ditch south of Virginiatown Road, as does the current pipe.

The North Outfall is a wide, shallow, natural ground swale that eventually drains into the Upper Tributary of Markham Ravine, approximately 1,500 feet northwest of Lincoln Meadows. Treated runoff water from the proposed north detention basin would be discharged via a basin outlet structure and drain overland to this swale. No improvements would occur to the swale.

Post-Project Drainage

As shown in Table 4.6-1 above, the inclusion of the detention basins would ensure that peak outflows from the North and South outfalls, following implementation of the project, would be equal to or less than the target flows required by the *West Placer Storm Water Quality Design Manual*.²⁹ For the Southeast and Southwest outfalls, post-project flows would be less than or equal to the target flows required by the *West Placer Storm Water Quality Design Manual* (see Table 4.6-1) and detention would not be required.

In addition to meeting the requirements of the *West Placer Storm Water Quality Design Manual*, the inclusion of the detention basins in the proposed project would meet the requirements of the City of Lincoln's Municipal Code Chapter 8.60, pertaining to post-development peak storm water runoff discharge rates not exceeding pre-development rates. Chapter 8.60 of the City's Municipal Code incorporates the requirements of the City's NPDES Phase II Small MS4 General Permit. The Phase II Small MS4 General Permit requires that the peak post-project stormwater runoff from the project site be equal to or less than the peak pre-project stormwater runoff from the project site. As shown in Table 4.6-1 above, the detention basins would ensure that the proposed project complies with the applicable regulations within the City's Municipal Code and the City's NPDES Phase II Small MS4 General Permit.

²⁹ *Ibid*.

In accordance with Chapter 8.60 of the City's Municipal Code, applicants must submit a Stormwater Maintenance Plan. The Stormwater Maintenance Plan must identify long-term maintenance and operation strategy that will ensure the continued effectiveness of any specific storm water treatment or source control measures included in the proposed project. Chapter 8.60 of the City's Municipal Code also includes provisions related to inspection and sampling of such stormwater features, which would allow for enforcement of the Stormwater Maintenance Plan if violations were to occur.

Conclusion

West Yost Associates determined that the detention basins included in the proposed project would be adequately sized to meet the applicable City and County regulations for peak flows. As shown in Table 4.6-1, with incorporation of the detention basins, peak flows exiting the site at existing outfall locations would not increase in the post-project condition. Subsequently, the proposed project would not result in increases in peak volumes that could lead to downstream flooding. Additionally, the applicant must submit a Stormwater Maintenance Plan, which would ensure that the proposed detention basins, and any other drainage features, such as drain inlets and associated filters, would be adequately sized and properly maintained to achieve peak flow attenuation as presented in Table 4.6-1. As such, the proposed project would result in a *less-than-significant* impact related to altering existing site drainage patterns in such a way as to exceed the capacity of existing infrastructure or lead to flooding on- or off-site.

<u>Mitigation Measure(s)</u> None required.

4.6-2 Violate any water quality standards or waste discharge requirements, provide substantial additional sources of polluted runoff, or otherwise substantially degrade water quality during construction. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Construction activities such as grading, excavation, and trenching for site improvements would result in the disturbance of on-site soils. The exposed soils have the potential to affect water quality in two ways: 1) suspended soil particles and sediments transported through runoff; or 2) sediments transported as dust that eventually reach local water bodies. Spills or leaks from heavy equipment and machinery, staging areas, or building sites also have the potential to enter runoff. Typical pollutants include, but are not limited to, petroleum and heavy metals from equipment and products such as paints, solvents, and cleaning agents, which could contain hazardous constituents. Sediment from erosion of graded or excavated surface materials, leaks or spills from equipment, or inadvertent releases of building products could result in water quality degradation if runoff containing the sediment or contaminants should enter receiving waters in sufficient quantities. Impacts from construction-related activities would generally be short-term and of limited duration.

Because development of the site would require construction activities that would result in a land disturbance greater than one acre, the applicant would be required by the State to obtain a General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit), which pertains to pollution from grading and project construction. Compliance with the Permit requires the applicants to file a Notice of Intent (NOI) with the SWRCB and prepare a SWPPP prior to construction. The SWPPP would incorporate BMPs in order to prevent, or reduce to the greatest feasible extent, adverse impacts to water quality from erosion and sedimentation. Without the project's required compliance with the SWRCB standards construction activities related to the proposed project could result in a *significant* impact related to the violation of water quality standards, discharge requirements, or the creation of a substantial additional source of polluted runoff.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

4.6-2 Prior to initiation of any ground disturbing activities, the project applicant shall prepare a SWPPP, and implement BMPs that comply with the General Construction Stormwater Permit from the Central Valley RWQCB, to reduce water quality effects during construction. Such BMPs may include: temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation. The SWPPP shall be kept on-site and implemented during construction activities and shall be made available upon request to representatives of the City of Lincoln and/or RWQCB.

4.6-3 Violate any water quality standards or waste discharge requirements, provide substantial additional sources of polluted runoff, or otherwise substantially degrade water quality during operations. Based on the analysis below, the impact is *less than significant*.

The proposed project would result in an increase in impervious surfaces on the project site through the development of 144 single-family residential units and associated internal roadways. Residential communities use small quantities of urban pollutants that can become entrained in stormwater runoff. Anticipated runoff contaminants associated with residential communities include sediment, pesticides, oil and grease, nutrients, metals, bacteria, and trash.

As described in Impact 4.6-1, the proposed project includes construction of two stormwater detention basins within the project site. The proposed detention basins would control peak stormwater flows from the project site, while also allowing for simultaneous on-site stormwater treatment. The detention basins would include layers of permeable material, including an 18-inch layer of engineered soil, comprised largely of sand, on top of a 12-inch layer of aggregate base. Stormwater directed to the detention basins would be allowed to interact with the upper soil layers, before either flowing to the stormwater outfalls or infiltrating into the natural soil below the basin. The interactions between the runoff and

the soil layers of the detention basin would remove pollutants from the stormwater runoff, slow the velocity of the runoff, and reduce the volume of runoff prior to discharge.

In addition to water treatment within the detention basins, the Southeast Outfall would be upgraded to include a drain inlet filter, which would treat runoff from the improved Hungry Hollow Road. The area draining to the Southwest Outfall would remain as undeveloped land, and, thus, the post-project quality of runoff to the Southwest Outfall would not be altered as compared to the pre-project quality. As such, the Southwest Outfall does not require changes to provide stormwater treatment.

Stormwater control features for developments in the City of Lincoln must be designed in accordance with the City's adopted Municipal Code standards and the standards of the West Placer Storm Water Quality Design Manual. The City has obtained coverage under the Phase II Small MS4 General Permit. The Phase II Small MS4 General Permit requires that permanent stormwater control measures be incorporated into the proposed project to ensure that new development does not result in the discharge of polluted water or the increase in sources of polluted runoff. As currently designed, and as discussed in impact statement 4.6-1, the stormwater control features currently included in the project plans would be adequately sized to meet the requirements of the City's Phase II Small MS4 General Permit and Chapter 8.60 of the City's Municipal Code. Adherence to the City's Phase II Small MS4 General Permit and Chapter 8.60 of the City's Municipal Code would fulfill the City's General Plan Policies PFS-4.11 and OSC-4.3, and, thus, ensure that residential activities associated with operation of the proposed project would not violate any water quality standards, or discharge requirements, nor would project operations provide a substantial source of polluted runoff. Therefore, the proposed project would result in a less-than-significant impact related to the substantial degradation of water quality during project operations.

<u>Mitigation Measure(s)</u> *None required.*

4.6-4 Substantially deplete groundwater supplies or interfere substantially with groundwater recharge. Based on the analysis below, the impact is *less than significant*.

Municipal water within the City of Lincoln is primarily supplied by surface water, with groundwater used during periods when treated surface water supply is either reduced or insufficient to meet demand. The proposed project would not include the installation of new wells, and groundwater would not be used to meet project demands.³⁰ Therefore, the proposed project would not be anticipated to substantially deplete groundwater supplies. The Public Services and Utilities chapter of this EIR evaluates the sufficiency of water supply for the project. Per the discussion provided in Impact Statement 4.9-5, the City has sufficient water supply to serve the project and future anticipated demand.

³⁰ Baker-Williams Engineering Group. *Water Study Lincoln Meadows*. October 2015.

It is also important to note that approximately 7.95 acres of the project site would remain as open space that would allow infiltration to underlying groundwater. In addition, two detention basins would be constructed on-site, within the western open space area. The detention basins would continue to contribute to groundwater recharge following construction of the project. Furthermore, the project is not anticipated to significantly affect groundwater quality because sufficient stormwater infrastructure would be constructed as part of project to detain and filter stormwater runoff and prevent long-term water quality degradation.

Therefore, the proposed project would not interfere substantially with groundwater recharge, and related impacts would be *less than significant*.

Mitigation Measure(s) None required.

4.6-5 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. Based on the analysis below, the impact is *less than significant*.

According to the Placer County Local Hazard Mitigation Plan (LHMP), there are 47 dams in Placer County.³¹ Areas subject to flooding from a dam failure would primarily be areas located along streams and drainages. Factors that influence the potential severity of a full or partial dam failure include the amount of water impounded; the density, type, and value of development and infrastructure located downstream; and the speed of failure. Table 4-15 of the Placer County LHMP includes an inventory of the level of hazard posed by dams within the County. As shown in the LHMP, all of the dams located in proximity to the City of Lincoln, or that connect to waterways near the project site pose a low hazard to downstream development.³² Furthermore, the City of Lincoln is not located within a levee flood protection zone, and, thus, the project site is not considered to be at significant risk of flooding due to levee failure.³³

Accordingly, although a drainage tributary occurs in proximity to the project site, the project site would not be expected to become flooded as a result of the failure of a levee or dam. Therefore, the proposed project would have a *less-than-significant* impact with respect to exposing people or structures to a significant risk of loss, injury or death involving flooding as a result of the failure of a levee or dam.

Mitigation Measure(s) None required.

³¹ County of Placer. *Local Hazard Mitigation Plan Update*. March 2016.

³² County of Placer. *Local Hazard Mitigation Plan Update* [pgs. 4-50-58]. March 2016.

³³ County of Placer. *Local Hazard Mitigation Plan Update* [pgs. 4-112-116]. March 2016.

Cumulative Impacts and Mitigation Measures

The following discussion of impacts is based on the implementation of the proposed project in combination with other proposed and pending projects in the region. Refer to Chapter 5, Statutorily Required Sections, of this EIR for more detail.

4.6-6 Cumulative impacts related to hydrology and water quality within the City of Lincoln. Based on the analysis below, the project's incremental contribution to this significant cumulative impact is *less than cumulatively considerable*.

The City of Lincoln's General Plan EIR concluded that concurrent implementation of the proposed project and other cumulative projects could result in long-term impacts related to water quality and increases in stormwater runoff from new impervious areas. Although the City's General Plan EIR included mitigation measures to reduce such impacts, the EIR determined that buildout of the City would result in significant and unavoidable impacts related to hydrology and water quality. Therefore, a significant cumulative impact related to hydrology and water quality would occur. As discussed above, however, new development in the City of Lincoln is required to comply with the City's Phase II Small MS4 General Permit and Chapter 8.60 of the City's Municipal Code. While the proposed project has the potential to increase stormwater discharge, and degrade water quality, the incorporation of on-site stormwater control features, would ensure that the proposed project meets the requirements of the City's Phase II Small MS4 General Permit and Chapter 8.60 of the City's Municipal Code. Such requirements would be met through the incorporation of the detention basins discussed above. As shown by West Yost, the proposed detention basins would ensure that post-development stormwater flows would not exceed pre-project flows, and the project would not contribute to increased stormwater flows.³⁴ In addition, the proposed detention basins, and the proposed DI filter at the Southeast Outfall, would reduce the potential for runoff from the proposed project to substantially reduce water quality.

Therefore, the project would not have a substantial incremental contribution toward longterm drainage and water quality impacts. Consequently, the proposed project would result in a *less than cumulatively considerable* impact.

Mitigation Measure(s) None required.

³⁴ West Yost Associates. *Technical Memorandum: Lincoln Meadows Detention Basin Study*. October 6, 2016.

4.7 LAND USE AND PLANNING / AGRICULTURAL RESOURCES

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4.7

LAND USE AND PLANNING / AGRICULTURAL RESOURCES

4.7.1 INTRODUCTION

The purpose of the Land Use and Planning / Agricultural Resources chapter of the EIR is to examine the proposed project's compatibility with existing and planned land uses in the area and summarizes the status of the existing agricultural resources within the boundaries of the proposed project site, using the current State model and data, including identification of any Prime/Unique Farmland or Farmland of Statewide Importance within the project boundaries. Section 15125(d) of the California Environmental Quality Act (CEQA) Guidelines states that "[...] the EIR shall discuss any inconsistencies between the proposed project and applicable general plans and regional plans." The Land Use and Planning / Agricultural Resources chapter discussions include a description of the existing land use setting of the project site and the adjacent area, including the identification of existing land uses and current General Plan policies and zoning designations, as well as agricultural resources impacts. In addition, the chapter addresses the project's consistency with the policies and standards of the Placer County Local Agency Formation Commission (LAFCo) regarding land use. The information contained in this analysis is primarily based on the *City of Lincoln General Plan*,¹ and associated EIR,² and the Lincoln Code of Ordinances.³

4.7.2 EXISTING ENVIRONMENTAL SETTING

The following section describes the existing land use and zoning designations on the project site, at the time the NOP was published on July 20, 2016. In addition, the Existing Environmental Setting section describes current farmland and soil productivity classification systems, as well as the extent and quality of any agricultural resources present on the project site.

Project Site Characteristics

The Lincoln Meadows project site is located within an unincorporated area of Placer County, north of Virginiatown Road and east of Hungry Hollow Road. The project site is located within the City of Lincoln Sphere of Influence (SOI), immediately east of the City of Lincoln's boundary, within the Village 2 planning area of the 2008 City of Lincoln General Plan. The total project site consists of approximately 43.87 acres, which includes the 40-acre tentative map site identified as Placer County assessor's parcel number (APN) 021-231-018, an approximately 2.15-acre linear parcel between the tentative map site and Hungry Hollow Road (APN 021-250-001), and a 1.2-acre portion of Hungry Hollow Road fronting APN 021-250-001 (see Figure 4.7-1).

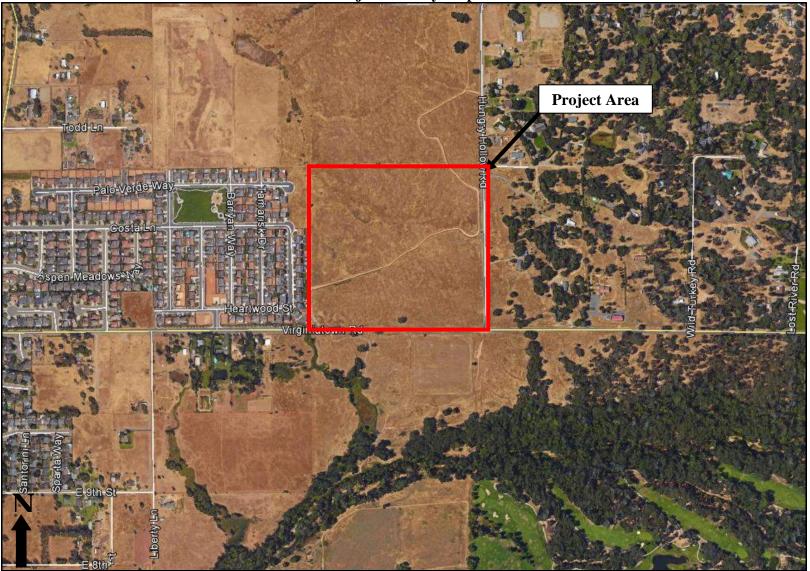
¹ City of Lincoln. *City of Lincoln General Plan*. March 2008.

² City of Lincoln. General Plan Update Final Environmental Impact Report. February 2008.

³ City of Lincoln. *Lincoln, California – Code of Ordinances*. Current through September 30, 2015.

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Figure 4.7-1 Project Vicinity Map



CHAPTER 4.7 – LAND USE AND PLANNING / AGRICULTURAL RESOURCES

The 43.87-acre project site currently contains annual grassland; several scattered trees, including one large valley oak tree; an existing Nevada Irrigation District (NID) canal, known as the "Lincoln Canal," which traverses through the center of the project area; and 1.2 acres of a paved portion of Hungry Hollow Road.

Surrounding Land Uses

Land uses in the vicinity of the project site are generally characterized primarily by the singlefamily residences associated with the Lincoln Highlands subdivision located to the west of the site and undeveloped agricultural land. The western edge of the property is bordered by a 40foot-wide NID easement, then a 7-foot-high masonry block wall, after which is the single-family residential subdivision. A 42-foot-wide irrevocable offer of dedication (IOD) exists along the entire length of the western boundary of the site, which is associated with a potential future collector road north of Virginiatown Road that was considered when the Lincoln Highlands subdivision project was approved.⁴ The NID easement runs on top of the roadway IOD.

The southern edge of the project site is bordered by Virginiatown Road, south of which is the decommissioned City landfill, which closed in 1976. The northern portion of the approved Village 1 Specific Plan is also south of Virginiatown Road. The eastern edge of the project site is bordered by rural residential uses and undeveloped lands (east of Hungry Hollow Road). The parcel to the north of the project site is undeveloped grassland, which is designated as Rural Residential and zoned Farm, by the County. Although the lot to the north of the project site is zoned for farming uses by the County, agricultural related activities (i.e., grazing) are not known to have occurred on the lot to the north of the project site since 2003. Carlin C. Coppin Elementary School is located approximately one mile west of the site, along Virginiatown Road. In addition, a new church (Church of Jesus Christ of Latter-day Saints) is located along Virginiatown Road, approximately 0.25-mile west of the site.

Existing General Plan Land Use Designations

The proposed project includes a request for annexation of the 43.87-acre project area from Placer County to the City of Lincoln. The project site's land use designations, according to the County and City General Plans, are discussed below.

Placer County General Plan

According to the Placer County General Plan, the 43.87-acre project area is designated as Rural Residential (RR) (see Figure 4.7-2). The RR land use designation is defined as follows:

⁴ With the approval of the Village 1 Specific Plan, the future roadway that would have created a beltway loop road from Village 1 through Village 2 has been shifted eastward and now coincides with Hungry Hollow Road.

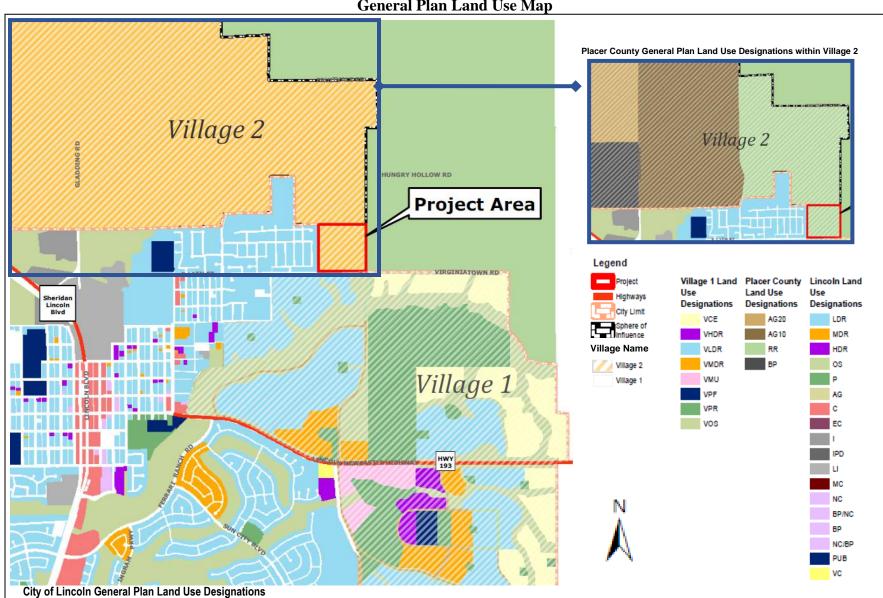


Figure 4.7-2 General Plan Land Use Map

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Rural Residential

The RR land use designation is applied to areas generally located away from cities and unincorporated community centers, in hilly, mountainous, and/or forested terrain and as a buffer zone where dispersed residential development on larger parcels would be appropriate, and compatible with smaller-scale farming and ranching operations. Typical uses allowed include: detached single-family dwellings and secondary dwellings; agricultural uses such as crop production and grazing, equestrian facilities, and limited agricultural support businesses such as roadside stands, farm equipment and supplies sales; resource extraction uses; various facilities and services that support residential neighborhoods, such as churches, schools, libraries, child care and medical facilities; and parks and necessary public utility and safety facilities.

City of Lincoln General Plan

According to the Lincoln General Plan, the 43.87-acre project area is currently designated Village (V), and is within the Village 2 area (see Figure 4.7-2). On October 22, 2013, a Memorandum was presented to the Lincoln City Council regarding the Lincoln Meadows project. Specifically, City staff sought direction from City Council regarding the approach to proceeding with the Lincoln Meadows' land owner's intent to develop the property with residential uses. Staff presented two options to City Council: 1) direct the applicant to move forward with an application that included annexation, tentative subdivision mapping, and requesting an amendment to the General Plan that would adjust the Village 2 boundary; and 2) reaffirm to the applicant that they need to be part of a Specific Plan planning effort for Village 2 consistent with Policy LU-15.1 of the General Plan, requiring them to coordinate the planning process and funding of the work with other landowners.

It was recognized that doing so would be a difficult undertaking given the size and scope of the work and number of parcels involved. The Lincoln City Council came to the consensus that removal of the Lincoln Meadows project site from Village 2 was appropriate, provided that development of the Lincoln Meadows Project included annexation of the project site into the City of Lincoln.⁵ Therefore, the applicant's request to amend the Lincoln General Plan to exclude the project site from the Village 2 boundary is consistent with previous City Council direction.

The V land use designation is defined in the Lincoln General Plan as follows:

Village

The V designation is intended to provide for a village concept that promotes mixed-use residential projects focused around a village core that contains a mix of high-density residential and neighborhood commercial uses. The villages will all be designed with a central focus and will be designed to take advantage of smart growth principles set forth in Land Use Policies LU-1.1 through LU-1.13. Smart growth promotes sustainable development and the encouragement of more livable communities through use of the following principles:

⁵ City Council, City of Lincoln. *City Council Meeting Minutes*. October 22, 2013.

- Provision of a variety of transportation choices;
- Offer housing choices and opportunities;
- Use of compact development;
- Use of existing assets;
- Mixed land uses;
- Preservation of open space, farmland, natural beauty, through natural resource conservation; and
- Encouragement of distinctive, attractive communities with quality design.

The Land Use Diagram for the General Plan includes seven villages that each will contain a mixture of land uses and densities designed to implement smart growth principles and also recognize the environmental and physical constraints of each of the village areas. Each village will include a mix of low, medium, and high density residential, neighborhood commercial, open space, and public facilities (i.e., schools, institutional uses, police and fire facilities, etc.).

All urban development under this designation shall be approved pursuant to an adopted specific plan. During the development of each specific plan, the V designation shall be replaced with exact land use designations reflective of the mixed use concept. These designations will be established with the adoption of each specific plan and implemented with form based zoning classifications consistent with the specific plan.

Existing Zoning Designations

The project area is currently located within Placer County and only has a County zoning designation. Upon annexation, the project area would be prezoned with a City zoning designation.

Placer County

The 43.87-acre project area has a County zoning designation of Farm (F), 4.6-acre minimum (see Figure 4.7-3), which is defined as follows:

Farm

The purpose of the F zone is to provide areas for the conduct of commercial agricultural operations that can also accommodate necessary services to support agricultural uses, together with residential land uses at low population densities.

Adjacent General Plan Land Use Designations

Placer County and the City of Lincoln have adopted the following land use designations for the areas surrounding the project site (see Figure 4.7-2 above).

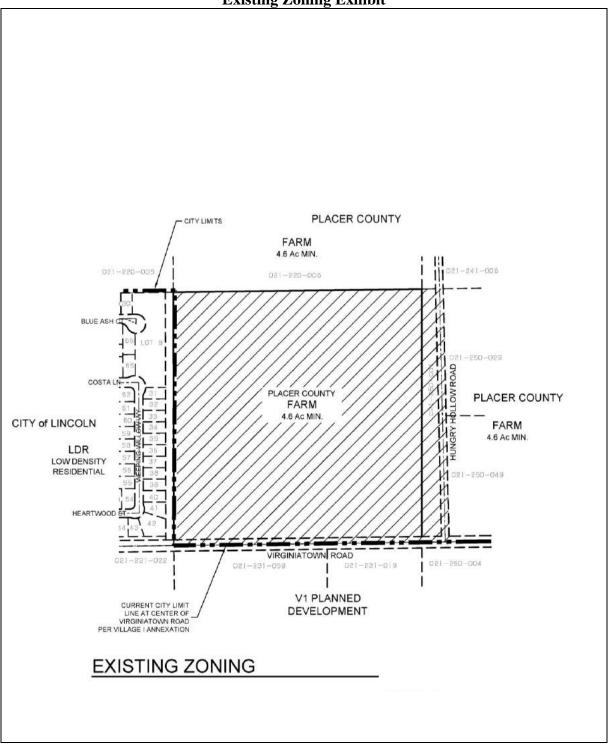


Figure 4.7-3 Existing Zoning Exhibit

North	RR (Placer County); Village-2 (City of Lincoln)
South	Village-1 (City of Lincoln)
East	RR (Placer County)
West	Low Density Residential (LDR) (City of Lincoln)

The City of Lincoln General Plan defines the LDR designation as follows:

Low Density Residential

The purpose of the LDR designation is to provide areas for single-family detached residential uses and activities normally associated with single-family neighborhoods. Where found appropriate, innovative single-family design alternatives are encouraged. The LDR designation provides for single-family detached and attached homes, secondary residential units, public and quasi-public uses, and similar and compatible uses. Residential densities shall be in the range of 3.0 to 5.9 units per gross acre.

Adjacent Zoning Designations

Placer County and the City of Lincoln have adopted the following zoning districts for the areas surrounding the project site (see Figure 4.7-3 above).

North	F (Placer County)
South	Village 1 Specific Plan (City of Lincoln)
East	F (Placer County)
West	Single-Family Residential (R-1) and O-S (City of Lincoln)

The City of Lincoln R-1 and O-S zoning districts are defined in the Lincoln Zoning Ordinance as follows:

Village 1 (defined above)

Single-Family Residential District

R-1 District is intended to provide for the development of single-family dwellings, and permitting transitional housing and supportive housing. The R-1 district also conditionally permits the development of churches, schools, parks and playgrounds, and public utility buildings, excluding equipment yards, warehouses, or repair shops.

Open Space District

The primary purpose of the O-S district is to provide for the development of parks, playgrounds and playfields, public swimming pools, golf courses, country clubs, schools, community centers, and public buildings. The O-S district also conditionally permits the development of museums, art galleries, public utility substations, agricultural land, and commercial uses accessory to permitted uses, such as refreshment stands, restaurants, sports equipment rental and sales, or marinas.

Sacramento Area Council of Governments Blueprint and Metropolitan Transportation Plan/Sustainable Communities Strategy

SACOG is designated by the state and federal governments as the Metropolitan Planning Organization (MPO) and is responsible for developing a regional transportation plan every four years in coordination with Sacramento, Yolo, Yuba, Sutter, El Dorado and Placer counties and the 22 cities within those counties (excluding the Tahoe Basin).

In 2004, the SACOG board adopted the Sacramento Region Blueprint map with areas best suited for future housing and employment growth through 2050, as well as future lands needed for growth after 2050, and the following seven Blueprint growth principles:

- 1. provide a variety of transportation choices;
- 2. offer housing choices and opportunities;
- 3. use existing assets;
- 4. take advantage of compact development;
- 5. preserve open space, farmland, and natural beauty, through natural resources conservation;
- 6. encourage distinctive, attractive communities with quality design; and
- 7. mix of land uses

The Sacramento Region Blueprint is a voluntary growth strategy that the region's 28 local jurisdictions are actively encouraged to use as they make local land use decisions. The Blueprint provided the land use foundation for the subsequent Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS). The MTP/SCS is a long-term transportation plan that links transportation and land use planning. Together the Blueprint Preferred Scenario and the MTP/SCS are meant to constrain future increase in traffic congestion and reduce transportation related emissions of climate change causing greenhouse gas emissions.

If a city, county, or public agency in the Sacramento region wants to use federal transportation funding for projects or programs, those projects must be included in the MTP/SCS project list. The MTP/SCS includes transportation improvements and investments that will serve the Sacramento region's projected land use pattern and population growth for a 20 year period. All transportation projects that are regionally significant for potential air quality impacts must also be included in the MTP/SCS.

The current plan, the 2016 MTP/SCS, covers the period from 2012 to 2036 and is an update to the 2012 MTP/SCS that was adopted in April 2012. The 2016 MTP/SCS provides the regional plan for transportation investments, integrated with projected land use, and funding constraints the region can reasonably expect to see through 2036.

According to Appendix E-3 of the 2016 MTP/SCS, the Village 2 area of Lincoln, within which the Lincoln Meadows project site is located, is identified as a Developing Community in the MTP/SCS.

Western Placer Fire County Service Area 28 Zone 76

The 43.87-acre project site is currently located within the Western Placer Fire County Service Area (CSA) 28 Zone 76. Within the Western Placer Fire CSA, Placer County provides fire protection services to the project site and surrounding area through a contract with CAL FIRE. Annexation of the project site to the City of Lincoln would require Placer County LAFCo approval of the detachment of the project site from Western Placer Fire CSA 28 Zone 76, as the City of Lincoln Fire Department would provide fire protection services to the proposed project upon annexation.

Farmland Classifications

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) uses two systems to determine a soil's agricultural productivity: the Land Capability Classification System and the Storie Index Rating System. The "prime" soil classification of both systems indicates the presence of few to no soil limitations, which, if present, would require the application of management techniques (e.g., drainage, leveling, special fertilizing practices) to enhance production. The Farmland Mapping and Monitoring Program (FMMP), part of the Division of Land Resource Protection, California Department of Conservation (DOC), uses the information from the NRCS to create maps illustrating the types of farmland in the area.

Farmland Mapping and Monitoring Program

The FMMP was established in 1982 to continue the Important Farmland mapping efforts begun in 1975 by the USDA. The intent of the USDA was to produce agriculture maps based on soil quality and land use across the nation. As part of the nationwide agricultural land use mapping effort, the USDA developed a series of definitions known as Land Inventory and Monitoring (LIM) criteria. The LIM criteria classified the land's suitability for agricultural production; suitability included both the physical and chemical characteristics of soils and the actual land use. Important Farmland maps are derived from the USDA soil survey maps using the LIM criteria.

Since 1980, the State of California has assisted the USDA with completing the mapping in the State. The FMMP was created within the California DOC to carry on the mapping activity on a continuing basis, and with a greater level of detail. The California DOC applied a greater level of detail by modifying the LIM criteria for use in California. The LIM criteria in California utilize the Land Capability Classification and Storie Index Rating systems, but also consider physical conditions such as dependable water supply for agricultural production, soil temperature range, depth of the groundwater table, flooding potential, rock fragment content, and rooting depth.

The California DOC classifies lands into seven agriculture-related categories: Prime Farmland, Farmland of Statewide Importance (Statewide Farmland), Unique Farmland, Farmland of Local Importance (Local Farmland), Grazing Land, Urban and Built-up Land (Urban Land), and Other Land. The first four types listed above are collectively designated by the State as Important Farmlands. Important Farmland maps for California are compiled using the modified LIM criteria and current land use information. The minimum mapping unit is 10 acres unless otherwise specified. Units of land smaller than 10 acres are incorporated into surrounding classifications.

Each of the seven land types are summarized below, based on California DOC's A Guide to the Farmland Mapping and Monitoring Program.⁶

- *Prime Farmland:* Prime Farmland is land with the best combination of physical and chemical features able to sustain the long-term production of agricultural crops. The land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. The land must have been used for the production of irrigated crops at some time during the two update cycles (a cycle is equivalent to two years) prior to the mapping date.
- Statewide Farmland: Farmland of Statewide Importance is land similar to Prime Farmland, but with minor shortcomings, such as greater slopes or with less ability to hold and store moisture. The land must have been used for the production of irrigated crops at sometime during the two update cycles prior to the mapping date.
- Unique Farmland: Unique Farmland is land of lesser quality soils used for the production of the State's leading agricultural crops. The land is usually irrigated, but may include non-irrigated orchards or vineyards, as found in some climatic zones in California. The land must have been cultivated at some time during the two update cycles prior to the mapping date.
- Local Farmland: Farmland of Local Importance is land of importance to the local agricultural economy, as determined by each county's Board of Supervisors and a local advisory committee. Placer County local farmland includes lands which do not qualify as Prime, Statewide, or Unique designation, but are currently irrigated crops or pasture or non-irrigated crops; lands that would meet the Prime or Statewide designation and have been improved for irrigation, but are now idle; and lands that currently support confined livestock, poultry operations and aquaculture.
- *Grazing Land:* Grazing Land is land on which the existing vegetation, whether grown naturally or through management, is suited to the grazing of livestock. The minimum mapping unit for this category is 40 acres.

⁶ California Department of Conservation, Division of Land Resource Protection, FMMP: A Guide to the Farmland Mapping and Monitoring Program. Available at: http://www.consrv.ca.gov/DLRP/fmmp/pubs/fmmp_guide_2004.pdf, 2004.

- *Urban Land:* Urban and Built-up Land is occupied with structures with a building density of at least one unit to one-half acre. Uses may include but are not limited to, residential, industrial, commercial, construction, institutional, public administration purposes, railroad yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other development purposes. Highways, railroads, and other transportation facilities are mapped as part of this unit, if they are part of a surrounding urban area.
- *Other Land:* Other Land is land that is not included in any other mapping categories. The following uses are generally included: rural development, brush timber, government land, strip mines, borrow pits, and a variety of other rural land uses.

As shown in Figure 4.7-4, the DOC has defined the entire project area as Farmland of Local Importance. As shown in Figure 4.7-5, the project area is identified as non-enrolled land and is not subject to a Williamson Act contract. Furthermore, forestland or timberland resources are not located in the project area.

Definition of Prime Farmland Under Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000

Government Code Section 56064 defines prime agricultural land as an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and that meets any of the following qualifications (only qualifications 'a' and 'b' would apply to the proposed project):

- a) Land that qualifies, if irrigated, for rating as class I or class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible.
- b) Land that qualifies for rating 80 through 100 Storie Index Rating.
- c) Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture in the National Range and Pasture Handbook, Revision 1, December 2003.
- d) Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than four hundred dollars (\$400) per acre.
- e) Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred dollars (\$400) per acre for three of the previous five calendar years.

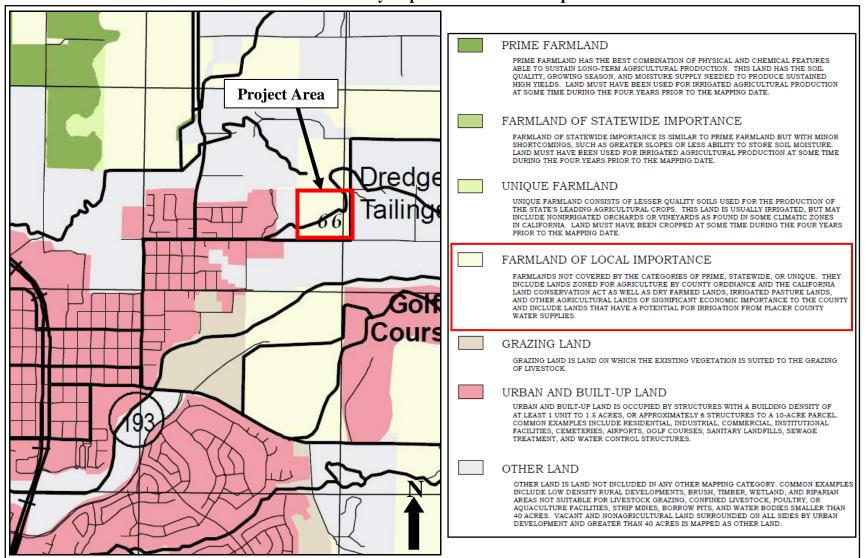


Figure 4.7-4 Placer County Important Farmland Map

Source: California Department of Conservation. Placer County Important Farmland 2014. April 2016.

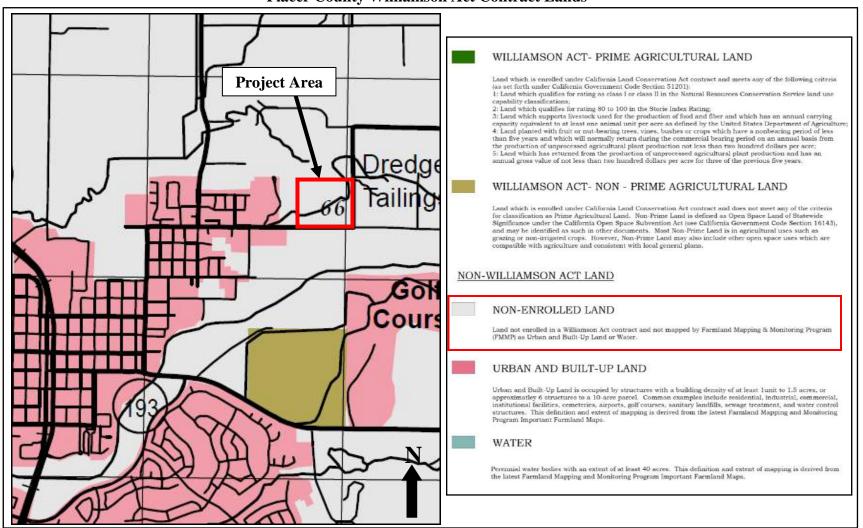


Figure 4.7-5 Placer County Williamson Act Contract Lands

Source: California Department of Conservation. Placer County Williamson Act FY 2015/2016, Sheet 1 of 2. 2015.

CHAPTER 4.7 - LAND USE AND PLANNING / AGRICULTURAL RESOURCES

Under items 'a' and 'b' above, it is necessary to determine the land capability classification and Storie Index Rating of the project site's soils in order to verify whether the project site meets the definition of Prime Agricultural Land under Government Code 56064.

Land Capability Classification System

The Land Capability Classification System takes into consideration soil limitations, the risk of damage when soils are used, and the way in which soils respond to treatment. Capability classes range from Class I soils, which have few limitations for agriculture, to Class VIII soils, which are unsuitable for agriculture. Generally, as the rating of the capability classification system increases, yields and profits are more difficult to obtain. A general description of soil classification, as defined by the NRCS, is provided in Table 4.7-1.

Table 4.7-1		
Land Capability Classification		
Class	Definition	
Ι	Soils have slight limitations that restrict their use.	
II	Soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.	
III	Soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.	
IV	Soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.	
V	V Soils are not likely to erode but have other limitations; impractical to remove that limit their use largely to pasture or range, woodland, or wildlife habitat.	
VI	Soils have severe limitations that make them generally unsuited to cultivation and limit	
VII Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife habitat.		
VIII Soils and landforms have limitations that preclude their use for commercial plants and restrict their use to recreation, wildlife habitat, or water supply or to aesthetic purposes.		
Source: United States Department of Agriculture Natural Resources Conservation Service. Available at: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/tools/?cid=nrcs142p2_054226. Accessed October 7, 2016.		

As seen in Figure 4.7-6 and according to the USDA NRCS Web Soil Survey conducted for the project site, the entire site is considered to have a Land Capability Classification of Class IV, which classifies the site soils to have very severe limitations that restrict the choice of plants or that require very careful management, or both.⁷ Therefore, based on Land Capability Classification alone, according to Government Code 56064 the project site is not considered Prime agricultural land.

⁷ United States Department of Agriculture Natural Resources Conservation Service. *Web Soil Survey*. Available at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed October 10, 2016.

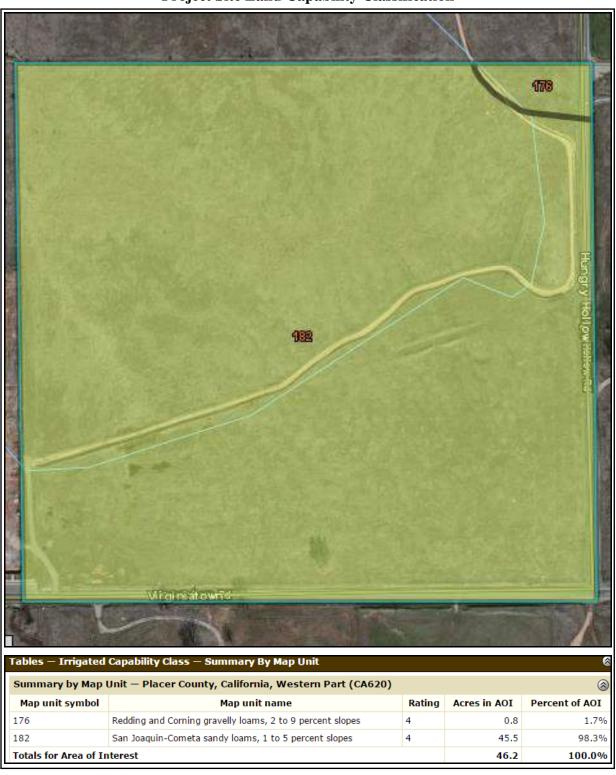


Figure 4.7-6 Project Site Land Capability Classification

Source: United States Department of Agriculture Natural Resources Conservation Service. Web Soil Survey. Available at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed October 10, 2016.

Storie Index Rating System

The Storie Index Rating system ranks soil characteristics according to their suitability for agriculture from Grade 1 soils (80 to 100 rating), which have few or no limitations for agricultural production, to Grade 6 soils (less than 10 rating), which are not suitable for agriculture. Under the Storie Index Rating system, soils deemed less than prime can function as prime soils when limitations such as poor drainage, slopes, or soil nutrient deficiencies are partially or entirely removed. Unlike the Land Capability Classification outlined above, the Storie Index Rating System does not distinguish between irrigated and non-irrigated soils. The six grades, ranges in index rating, and definition of the grades, as defined by the NRCS, are provided below in Table 4.7-2.

Table 4.7-2 Storio Index Poting System		
Storie Index Rating System Grade Index Rating Definition		
1 – Excellent	81 through 100	Few limitations that restrict their use for crops
2 – Good	2 – Good 61 through 80 Suitable for most crops, but have minor limitations that narrow the choice of crops and have a few special management needs	
3 – Fair	41 through 60	Suited to a few crops or to special crops and require special management
4 – Poor	21 through 40	If used for crops, are severely limited and require special management
5 – Very Poor	11 through 20	Not suited for cultivated crops, but can be used for pasture and range
6 – Non-Agriculture Less and 10 Soil and land types generally not suited to farming		
Source: United States Department of Agriculture Natural Resources Conservation Service. Web Soil Survey. Available at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed October 10, 2016.		

As seen in Figure 4.7-7 and according to the USDA NRCS Web Soil Survey conducted for the project site, more than 98 percent of the site is considered to have a Storie Index rating of Grade 4 - Poor, which means the use of crops would be severely limited and require special management,⁸ and is not identified as Prime agricultural land.

4.7.3 REGULATORY CONTEXT

The following section includes a brief summary of the regulatory context under which land use and agricultural resources are managed at the State, and local levels. In addition, a number of existing local land use objectives and policies relevant to the California Environmental Quality Act (CEQA) review process are presented below.

⁸ United States Department of Agriculture Natural Resources Conservation Service. *Web Soil Survey*. Available at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed October 10, 2016.

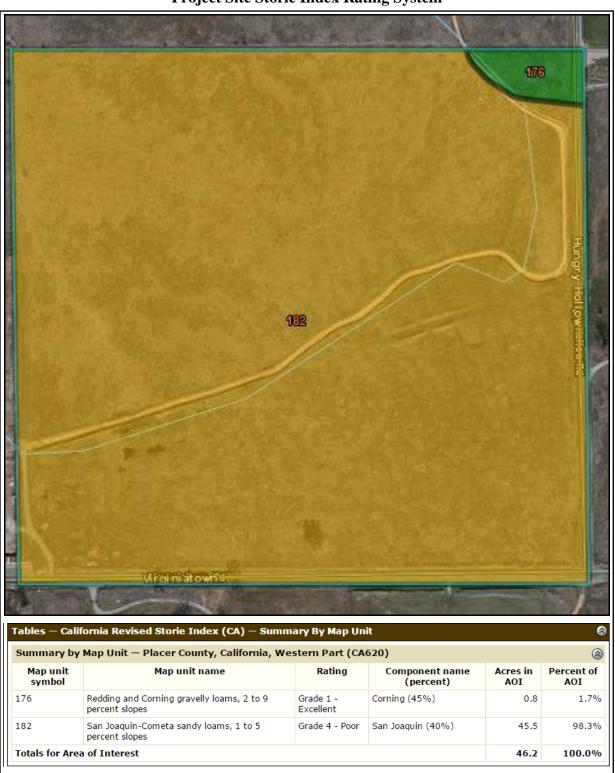


Figure 4.7-7 Project Site Storie Index Rating System

Source: United States Department of Agriculture Natural Resources Conservation Service. Web Soil Survey. Available at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed October 10, 2016.

State Regulations

The following are the State environmental laws and policies relevant to land use and agricultural resources.

California Land Conservation Act

Under the provisions of the Williamson Act (California Land Conservation Act 1965, Section 51200), landowners contract with the County to maintain agricultural or open space use of their lands in return for reduced property tax assessment. The contract is self-renewing and the landowner may notify the County at any time of intent to withdraw the land from its preserve status. Withdrawal involves a ten-year period of tax adjustment to full market value before protected open space can be converted to urban uses. Consequently, land under a Williamson Act Contract can be in either renewal status or non-renewal status. Lands with a non-renewal status indicate the farmer has withdrawn from the Williamson Act Contract and is waiting for a period of tax adjustment for the land to reach its full market value. As noted previously, the properties making up the proposed project site are not under a Williamson Act contract.

Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Government Code §560000 et seq.)

In California, the establishment and revision of local government boundaries is governed by the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (CKH). The CKH was a comprehensive revision of the Cortese-Knox Local Government Reorganization Act of 1985, which was itself a consolidation of three major laws governing boundary changes. The three laws that governed changes in the boundaries and organization of cities and special districts prior to 1986 were:

- The Knox-Nisbet Act of 1963, which established LAFCos with regulatory authority over local agency boundary changes.
- The District Reorganization Act of 1965 (DRA), which combined separate laws governing special district boundaries into a single law.
- The Municipal Organization Act of 1977 (MORGA), which consolidated various laws on city incorporation and annexation into one law.

Local Regulations

The following are the local environmental laws and policies relevant to land use and agricultural resources.

Placer County Local Agency Formation Commission

The objectives of a LAFCo are to encourage the orderly formation of local government agencies, preserve agricultural land, and discourage urban sprawl. LAFCos review proposals for the formation of new local government agencies and regulate changes, such as boundary lines, of existing agencies. A LAFCo is the entity that evaluates proposals for the creation of cities or

special districts, as well as proposals to annex land to local jurisdictions. The project site is currently located within the City's SOI, but because the site is not within the city limits, annexation is required. If the proposed project were approved, the City of Lincoln would provide municipal services.

Placer County LAFCo is responsible for approval of the proposed annexation for the project, and this EIR will be used by the Placer County LAFCo, as a responsible agency, during its review of the proposed project. Placer County LAFCo has adopted a comprehensive list of guidelines and policies to implement its stated objectives; however, some policies are intended to provide guidance to the Commission and are not directly applicable to actions by local jurisdictions. Relevant LAFCo policies are discussed in Table 4.7-3 below.

Placer County Right-to-Farm Ordinance

Placer County has adopted the following ordinance for the purpose and intent of protecting agricultural operations by limiting the circumstances under which a properly conducted agricultural operation may be considered a nuisance.

5.24.040 Right-to-Farm

- A. It is the declared policy of the County of Placer to preserve, protect and encourage the development and improvement of its agricultural land for the production of food and other agricultural products. When non-agricultural land uses extend into the agricultural areas, agricultural operations often become the subject of nuisance suits. As a result, agricultural operations are sometimes forced to cease or are substantially curtailed. Others may be discourages from making investments in agricultural improvements. It is the purpose of this section to reduce the loss to the County of its commercial agricultural resources by limiting the circumstances under which agricultural operations may be deemed to constitute a nuisance.
- B. No agricultural activity, operation, or facility, or appurtenances thereof, conducted or maintained for commercial purposes, and in a manner consistent with proper and accepted customs and standards, as established and followed by similar agricultural operations, shall be or become a nuisance, private or public, due to any changed condition in or about the locality, after the same has been in operation for more than one year if it was not a nuisance at the time it began.
- C. For the purpose of this section, the term "agricultural activity, operation, or facility, or appurtenances thereof" shall include, but not be limited to, the cultivation and tillage of soil, dairying, the production, cultivation, growing, and harvesting of any agricultural commodity including timber, Christmas trees, viticulture, apiculture, nursery stock, or horticulture, the raising of livestock, fur bearing animals, fish, or poultry, and game birds, and any practices performed by a farmer or on a farm as incident to or in conjunction with such farming operations, including preparation for market, delivery to storage, or to market, or to carriers for transportation to market.

- D. For the purpose of this section, commercial "agriculture" means those agricultural lands in designated areas, or those lands that are within the California Land Conservation Act or within a Timber Preserve zone or those lands that produce a gross annual income of four thousand five hundred dollars (\$4,500.00) from the sale of agricultural products.
- E. Each prospective buyer of property in unincorporated Placer County shall be informed by the seller or his/her authorized agent of the Right-to-Farm Ordinance. The seller or his/her authorized agent will keep on file a disclosure statement signed by the buyer with the escrow process.
- F. Whenever a building designated for residential occupancy is to be located on property in the unincorporated area of Placer County, the owners of the property, or their authorized agent, shall acknowledge receipt of the Right-to-Farm Ordinance.

City of Lincoln General Plan

The City of Lincoln General Plan policies relating to land use and agricultural resources are presented in Table 4.7-3, below.

City of Lincoln Zoning Ordinance

The City of Lincoln's Zoning Ordinance implements and supplements the goals and policies of the General Plan. Specifically, the Zoning Ordinance is used to encourage the most appropriate use of land, prevent undue concentration of population, lessen congestion on the streets, provide adequate provisions for community utilities, and promote the health, safety and general welfare of the public. Specific purposes of the Zoning Ordinance include the following:

- Regulate the use of buildings, structures and land between industry, business, residential use, and open space including agriculture, recreation, enjoyment of scenic beauty and the use of natural resources.
- Regulate the intensity of land use.
- Divide the City into zoning districts of such number, shape, and area as may be deemed best suited to carry out the purposes of the Zoning Ordinance.

4.7.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology utilized to analyze and determine the proposed project's potential impacts related to land use and agricultural resources.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines a land use and agricultural resources impact may be considered to be significant if any potential effects of the following conditions, or potential thereof, would result with the proposed project's implementation:

Land Use

- Physically divide an established community;
- Conflict with any applicable land use plans, policies, or regulations of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect;
- Develop land uses that are incompatible with each other or with adjacent land uses; and
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

Agricultural Resources

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g));
- Result in the loss of forest land or conversion of forest land to non-forest use; and
- Involve other changes in the existing environment which, due to their location or nature, could individually or cumulatively result in loss of Farmland to non-agricultural use.

Issues Not Discussed Further

It should be noted that the proposed project's impacts associated with any applicable habitat conservation plan or natural community conservation plan are addressed in the Biological Resources chapter of this EIR. In addition, the Initial Study prepared for the proposed project (see Appendix C) determined that development of the proposed project would result in no impact related to the following:

- Physically divide an established community;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)); and
- Result in the loss of forest land or conversion of forest land to non-forest use.

Accordingly, impacts related to the above are not further analyzed or discussed.

Method of Analysis

Land Use

The Land Use impact evaluation qualitatively compares the uses proposed for the project to the existing uses in the vicinity of the project site in order to determine if proposed land uses are compatible with existing uses. The determination of compatibility is based on the anticipated environmental effects of proposed uses and the sensitivity of adjacent uses to those effects. The evaluation also assesses the consistency of the proposed project with the goals and policies of the City's General Plan and Placer County LAFCo, as well as other applicable local environmental and planning documents.

Agricultural Resources

Evaluation of potential impacts of the proposed project on agricultural resources were based on the following: the Placer County General Plan; the Lincoln General Plan; the Lincoln General Plan EIR; USDA Soil Survey; and the Placer County Important Farmland Map. The standards of significance listed above are used to delineate the significance of any potential impacts.

Project-Specific Impacts and Mitigation Measures

The following discussion of land use and agricultural resources impacts is based on implementation of the proposed project in comparison to existing conditions and the standards of significance presented above.

4.7-1 Conflict with any applicable land use plans, policies, or regulations of an agency with jurisdiction over the project (including, but not limited to the general plan or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. Based on the analysis below, the impact is *less than significant*.

The proposed project site currently has a Placer County General Plan Land Use designation of RR. The project site is currently designated V on the City's General Plan Land Use Diagram, and is within the Village 2 area (see Figure 4.7-8). As discussed in the Existing Environmental Setting Section, the Lincoln City Council previously determined that removal of the project site from Village 2 would be appropriate. The requested General Plan designations for the site are OS and LDR. A designation of LDR would be consistent with existing development within the city limits directly west of the project area.

The project site is currently zoned by Placer County as F. Consistent with the Cortese-Knox-Hertzberg Local Government Reorganization Act, prezoning would be required to be applied to the annexation area (see Gov. Code Section 56375). To ensure compatibility with the Lincoln General Plan LDR designation, the project area would be prezoned to the City's R-1 zoning district (see Figure 4.7-9). The R-1 zoning designation would be consistent with adjacent zoning designations within the City. Should the Lincoln City Council approve the General Plan Amendment and prezoning, the single-family and open space uses proposed for the project area would be consistent with the General Plan land use designations of LDR and OS. In order to demonstrate the project's consistency with the Lincoln General Plan, Table 4.7-3 includes a list of the relevant General Plan policies and a corresponding discussion of whether the project is consistent with each policy.

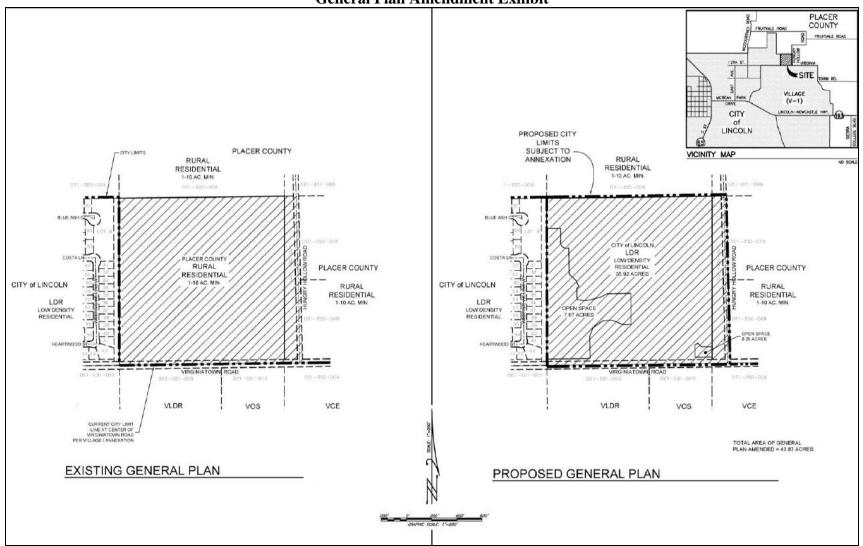


Figure 4.7-8 General Plan Amendment Exhibit

CHAPTER 4.7 – LAND USE AND PLANNING / AGRICULTURAL RESOURCES

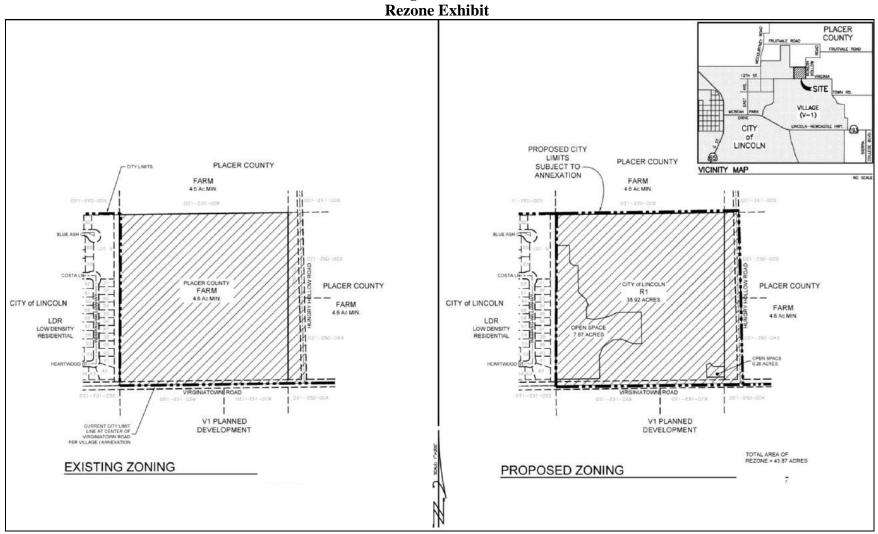


Figure 4.7-9 Rezone Exhibit

	Table 4.7-3		
	Local Plans and Agency Policy		
	City of Lincoln General Plan Land Use	Project Consistency	
LU-1.6	Transportation Choices - The City will promote the application of land use layouts and community designs that provide residents with transportation choices to walk, ride bicycles, ride transit services, as well as utilize a vehicle, including neighborhood electric vehicles.	The proposed project would include the construction of pedestrian facilities both within the project development and along its project frontage on the north side of Virginiatown Road. To the west of the project site, continuous sidewalks are provided except for a 300-foot section directly west of Heartwood Street. The pedestrian network would encourage residents to walk to the nearby destinations such as the neighborhood park on Costa Lane and Carlin C. Coppin Elementary School. The proposed project would improve the project frontage along Virginiatown Road to provide curb and gutter in addition to the existing 12-foot travel lane.	
LU-1.7	Housing Choices - The City will promote the application of land use designs that provide a variety of places where residents can live, including apartments, condominiums, townhouses and single family attached and detached.	The Transportation and Circulation chapter of this EIR determined pedestrian, bicycle, and transit impacts resulting from the development of the proposed project would be less than significant. The proposed project would include a tentative subdivision map and development of 144 one- and two-story single-family homes on lots that range in size from 6,000 square feet to 12,787 square feet, with an average lot size of 9,394 square feet. The wide range of proposed single-family lot sizes would offer different housing choices for new and existing residents.	
LU-1.8	Compact Development - The City will promote the use of development patterns that are more compactly built and use space in an efficient but aesthetic manner to promote more walking, biking and use of public transit.	Upon annexation, the proposed project would be within the city limits and adjacent to existing residential development. The project is of similar density as the adjacent Lincoln Highlands subdivision, which is an appropriate density for the outer edges of the City, prior to transitioning to rural development within the County.	
LU-1.10	Mixed Land Uses - Within the designated Village areas, the City will promote a mixed land use designed to place homes together with smaller businesses, institutional, and community land uses. The Village Core area will utilize the Mixed Use (MU) designation. Mixed land uses could include vertical as well as horizontal design	The proposed project includes a request for approval of a General Plan Amendment, which would remove the project site from Village 2 and re- designate the project site as OS and LDR. On October 22, 2013, the City of Lincoln City Council reached the consensus that removal of the project site from Village 2 was appropriate for the proposed project. ⁹ Should the	

⁹ City Council, City of Lincoln. *City Council Meeting Minutes*. October 22, 2013.

	Table 4.7-3		
	Local Plans and Agenc	y Policy Discussion	
Policy		Project Consistency	
	allowing for differing land uses within the same building, as well as within the same project area.	City of Lincoln City Council approve the requested General Plan Amendment, Policy LU-1.10 would not be applicable to the proposed project.	
LU-1.11	Natural Resource Conservation - To promote a high quality of life within the community, the City will in conjunction with related policies in other general plan elements, promote the retention of natural open space areas, greenbelts and the provision of adequate parks as part of approving new land use designs.	The proposed project would provide for a 7.67-acre open space area that would include two detention basins for stormwater quality and detention purposes, with portions intended to serve as a wetland and vernal pool preserve. A second, 0.28-acre open space area would be located along the southeastern project frontage adjacent to Virginiatown Road and Hungry Hollow Road. In addition, two landscape lots would be provided near the entryways to the subdivision. Two narrow landscaping strips, including a 0.31-acre landscape lot and a 0.27-acre landscape lot, would be provided along the southern project frontage adjacent to Virginiatown Road.	
LU-1.12	Quality Design - Through the design review process, apply design standards that promote the use of high quality building materials, architectural and site designs, landscaping signage and amenities. The City will continue to develop and apply design standards that result in efficient site and building designs, pedestrian friendly projects that stimulate the use of alternative modes of transportation, and a functional relationship between adjacent developments.	Pursuant to Section 18.67 of the City of Lincoln Municipal Code, prior to issuance of building permits, the proposed project would be subject to City Design Review. The Design Review process would ensure that the proposed project is designed such that the general appearance of any improvement preserve or enhance the physical environment and character of the community. The City would make recommendations accordingly on any matter requiring qualified aesthetic and/or architectural judgments.	
		project components, including building design and materials, lighting, roof design, placement of doors and windows etc., are consistent with the approval criteria outlined in the City of Lincoln Municipal Code.	
LU-1.14	Land Use Conflicts - The City shall continue to apply the regulations and procedures of the City's Zoning Ordinance and shall use the environmental process to prevent or mitigate land use conflicts.	The proposed project area is currently designated for urban development by the City of Lincoln General Plan.	
		The proposed project includes a request to amend the City of Lincoln General Plan Land Use Diagram to remove the project site from Village 2, and re-designate the project site as OS and LDR. A designation of LDR would be consistent with existing development within the city limits	

	Table 4.7-3		
	Local Plans and Agency Policy Discussion		
	Policy	Project Consistency	
		directly west of the project site. Other surrounding land uses include: unincorporated and undeveloped grasslands within the City's SOI (Village 2) to the north; and Hungry Hollow Road, single-family residences, and undeveloped woodland/grassland areas to the east. South of Virginiatown Road is the approved Village 1 Specific Plan, which currently consists of undeveloped woodland/grassland habitat surrounding Auburn Ravine and is designated for low-density residential uses in the specific plan. The project's residential uses would be compatible with future residential uses to the south.	
LU-2.1	Prevent Incompatible Uses - The City shall prevent the intrusion of new incompatible land uses into existing residential areas.	See Policy LU 1.14 consistency discussion.	
LU-2.6	Land Use Designations - The City shall provide a variety of residential land designations that will meet the future needs of the City.	The proposed project area is currently designated for urban development by the City of Lincoln General Plan (Village 2). The proposed project would include the subdivision and development of 144 single-family homes that would help meet the future housing needs of the City.	
LU-2.8	Innovative Development - The City shall promote flexibility and innovation in residential land use through the use of planned unit developments, developer agreements, specific plans, mixed use projects, and other innovative development and planning techniques.	The project must undergo a design review as part of the project evaluation, in compliance with the Zoning Ordinance, and a Development Agreement may also be sought for purposes of vesting entitlements and establishing specific obligations and commitments by both the City and the applicant. The project would pursue an innovative strategy of incorporating 7.67 acres of open space to protect on-site seasonal wetlands and vernal pools. Additionally, the project would include pedestrian amenities such as sidewalks and crosswalks, as well as a large, centrally-located traffic circle, which would help to improve on-site circulation and encourage alternative modes of transportation.	
LU-5.3	Protect Agriculture - The City shall ensure that agricultural land uses are not prematurely terminated by protecting the continued operation of agricultural land uses.	The 43.87-acre project area is currently vacant annual grassland and not in active agricultural use, and is not enrolled in a Williamson Act contract; therefore, the development of the proposed project would not prematurely terminate existing agricultural land uses.	
LU-5.4	Agricultural Buffers - The City shall require that agricultural land uses designated for long-term protection (i.e., in a Williamson Act contract or under a conservation easement) shall be buffered from	As illustrated in Figure 4.7-5 above, the project site and surrounding properties are not enrolled in a Williamson Act contract or protected under conservation easements.	

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	Table 4.7-3		
	Local Plans and Agenc		
	Policy	Project Consistency	
	urban land uses through the use of techniques including, but not limited to, greenbelts, open space setbacks, soundwalls, fencing and berming.		
LU-5.5	Agricultural Disclosure - Residential developments locating next to active agricultural areas will have a notice included in the deed notifying buyers of the agricultural use.	The project area is surrounded by the Lincoln Highlands subdivision to the west, grassland habitat to the north, and grassland/woodland habitats with single-family residences to the east. Undeveloped grassland surrounding Auburn Ravine in the approved Village 1 Specific Plan is located to the south. While active agricultural areas do not surround the project site, the properties to the north and east of the project site are currently zoned Farm by the County. Placer County maintains a Right-to- Farm Ordinance as Section 5.24.040 of the County's Code of Ordinances. The Right-to-Farm Ordinance protects agricultural activity on lands designated for such purposes, by limiting the circumstances under which agricultural operations may be deemed to constitute a nuisance. Although agricultural use of the properties to the north and east of the project site is protected by the Right-to-Farm Ordinance, the most recent use of the northern property for agricultural activities was cattle grazing, which ceased circa 2003, while the properties to the east have not been used recently for agricultural activities. Although cattle grazing on the land to the north of the project site could create conflicts with the proposed residential development, the property is not anticipated to be used again for such activities, as it is too small to function as a viable cattle ranching operation. Additionally, the property to the north of the project site is within the Village 2 designation of the City's General Plan, and, thus, is anticipated for future village type development. Therefore, use of the property to the north of the project site for agricultural activities is not likely, and development of the project site for residential land uses is not likely to create a conflict with existing agricultural activities or future development.	
		With respect to the Farm-zoned properties to the east, across Hungry	

	Table 4.7-3				
	Local Plans and Agency Policy Discussion				
	Policy	Project Consistency			
		Hollow Road, due to the presence of rural residences and scattered oak trees, the properties have limited areas to support viable commercial agricultural operations. Limited activities could occur, however, such as raising of chickens.			
		As a result, the project applicant has committed to providing a deed notice to all home buyers regarding the potential agricultural uses of the properties to the north and east of the project site.			
LU-9.4	Linkages - The City shall develop linkages between different parts of the city, and foster creation of unique elements that provide identity to the city and the neighborhoods and result in the creation of diverse and distinctive places.	The proposed project includes 7.67 acres of open space. The open space area would include two detention basins for stormwater quality and detention purposes, with portions intended to serve as a wetland and vernal pool preserve. The open space area would provide connectivity to the existing open space area in the single-family residential development to the west. Although the open spaces would be adjacent and continuous, pedestrian linkages between the open space areas are not proposed. Pedestrian linkage will be provided to the adjacent community via the provision of sidewalks along the north side of Virginiatown Road along the project frontage.			
LU-9.6	Maintain Urban Edge - The City shall maintain a distinct urban edge, while creating a gradual transition between urban uses and open space.	The existing urban edge of the City in this area (i.e., the western boundary of the project site) is distinct and consists of the Lincoln Highlands single- family subdivision and associated open space. The proposed project includes the same two components – open space and single-family uses – and would extend this distinct edge to Hungry Hollow Road. The new urban edge formed by the Lincoln Meadows project would provide a gradual transition to the rural residential and open space areas to the east by incorporating an average 50-foot landscape buffer along the western edge of the ultimate cross-section of Hungry Hollow Road.			
LU-9.8	The City shall emphasize Lincoln's natural features as the visual	See Policy LU 9.4 consistency discussion.			
	framework for new development and redevelopment.				
050.2.1	City of Lincoln General Plan Open S				
OSC-2.1	Agricultural Buffers - The City will provide for open space or other appropriate buffers, to protect agricultural operations located adjacent	The areas surrounding the project site predominately consist of vacant annual grasslands not in active agricultural use. Agricultural property to			

Table 4.7-3		
Local Plans and Agenc	y Policy Discussion	
Policy	Project Consistency	
to the City planning boundaries, when reviewing land use plans for	the north of the site is within the Village 2 planning area. See Policy LU	
such areas.	5.5 consistency discussion.	
OSC-2.2 Agricultural Disclosures - The City will require that developers of residential projects, which are within general proximity of agricultural operations in the County, provide notification to new homeowners within their deeds, of the County's right to farm ordinance.	See Policy LU 5.5 consistency discussion.	
OSC-2.3 Coordinate with Neighboring City / County Agricultural Objectives - The City shall support policies adopted by neighboring cities and Placer County to promote the viability of agriculture the [sic] county.	See Policy LU 5.5 consistency discussion.	
Placer County Local Agency For	mation Commission Policies	
I. PLACER LAFCO ENCOURAGES THE ORDERLY FORMATION OF LOCAL GOVERNMENTAL AGENCIES AND THE EFFICIENT PROVISION OF GOVERNMENTAL SERVICES D. BOUNDARIES		
 (2) POLICY: The Commission will generally honor an agreement between a city and the County, or a city and a city with respect to the inclusion or exclusion of roads adjacent to one or more of the boundaries of a proposed annexation. If no such agreement is in place, the entire width of any roadway which is adjacent to the property to be annexed should be included within the annexation when one or more of the following conditions apply: (a) the roadway will include significant new facilities (such as sewer lines, water lines, storm drains, or notable traffic control measures) that will be maintained by the annexing jurisdiction; (b) based upon existing and future potential land uses in the area, the primary users of that portion of the road would most likely be generated by the annexing entity; or (c) whenever the Commission, after considering the overall impacts, adjacent land uses, historic and perceptual boundary concerns, and 	 P-2 With respect to Hungry Hollow Road, the proposed project includes the annexation of the entire width of Hungry Hollow Road right-of-way into the City of Lincoln. With respect to Virginiatown Road, the proposed project includes the annexation of the northern half of Virginiatown Road into the City of Lincoln, given that the southern half of Virginiatown Road was recently annexed to the City of Lincoln as part of the annexation of the Village 1 Specific Plan into the City. 	

	Table 4.7-3 Local Plans and Agency Policy Discussion		
	Policy	y Pone	Project Consistency
	other factors relevant to LAFCO policy, determines that annexation of the roadway would be appropriate.		y v
II. PLA	POLICY: Special districts shall be detached from an area when a city annexes that area and assumes the role of service provider in place of he special district. ACER LAFCO ENCOURAGES THE PRESERVATION OF CICULTURAL LAND AND OPEN SPACE RESOURCES	P-4	The 43.87-acre project site is currently located within the Western Placer Fire CSA 28 Zone 76. Within the Western Placer Fire CSA, Placer County provides fire protection services to the project site and surrounding area through a contract with CAL FIRE. Annexation of the project site to the City of Lincoln would require Placer County LAFCo approval of the detachment of the project site from Western Placer Fire CSA 28 Zone 76, as the City of Lincoln Fire Department would provide fire protection services to the proposed project upon annexation.
t	POLICY: The Commission encourages all agencies within the County to adopt and exercise development policies that promote orderly development and logical boundaries and protect productive agricultural ands and significant open space areas, including riparian areas.	P-1	The proposed project represents orderly development because the project would serve as an extension of the adjacent Lincoln Highlands subdivision to the west, and the project includes preservation of open space/wetlands habitat in a 7.67-acre open space parcel on-site.
u F F	POLICY: Unless the subject area is substantially developed to its altimate use, annexation to a city or special district will be linked to a proposal to develop and not be speculative in nature. Development plans, including a timetable, will be required as part of the LAFCO application for annexation.	P-2	The annexation request is linked to a private applicant's request to develop 144 one- and two-story single-family homes.
v	POLICY: Generally annexation of farmlands shall not be permitted when significant areas of non-productive farmland are already available. Development of vacant land within a city or district should	P-3	As seen in Figure 4.7-7 above and according to the USDA NRCS Web Soil Survey conducted for the project site, more than 98 percent of the site is considered to have a Storie Index rating of

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Table 4.7-3			
Local Plans and Agency Policy Discussion			
Policy	Project Consistency		
 be developed prior to fringe areas. III. Encourage Logical Patterns of Growth and Discourage Urban Sprawl A. ORDERLY GROWTH (1) POLICY: The Commission encourages the urbanization of certain lands over others and hereby establishes a priority list for urbanization: (a) vacant or underdeveloped land within the existing boundaries of a city (b) vacant or underdeveloped land within the adopted sphere of influence of a city (c) vacant or underdeveloped land outside the adopted sphere of influence of a city 	 Grade 4 - Poor, which means the use of crops would be severely limited and require special management.¹⁰ In addition, the project site does not meet Placer County LAFCo definition of "Agricultural land" as land currently used for the purpose of producing an agricultural commodity for commercial purposes, land left fallow under a crop rotational program, or land enrolled in an agricultural subsidy or set-aside program. P-1 The proposed project area is vacant and undeveloped land located within the adopted City of Lincoln sphere of influence. 		
 (2) POLICY: The commission will consider the following factors in determining logical growth patterns in reviewing proposals for annexation to a city or expansion of a city's sphere of influence: (a) adjacency with existing and planned growth pattern of the city (b) projected growth demand and relationship to remaining lands to be developed within the city and its existing sphere (c) ability of the city to provide and fund needed services (utilities, transportation, public safety, recreation, libraries) to the levels defined by the city's general plan (d) pending or anticipated development applications to the County for areas within a city's existing sphere 	 P-2 The proposed project is immediately adjacent to the existing Lincoln Highlands residential subdivision and north of the approved Village 1 Specific Plan, both of which are within the city limits. According to SACOG's Regional Housing Needs Plan (RHNP), Lincoln has a total housing need of 3,790 units for the period of 2013–2021. While the City has more than sufficient land to accommodate its RHNA, the Village 1 and Village 7 Specific Plans are a major contributor. These Specific Plans are long-term projects that will be built out over several years. Therefore, near-term development of the Lincoln Meadows site could help meet the City's near-term housing needs. 		

¹⁰ United States Department of Agriculture Natural Resources Conservation Service. *Web Soil Survey*. Available at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed on October 10, 2016.

Table 4.7-3		
Local Plans and Agency Policy Discussion		
Policy	Project Consistency	
	The project applicant will provide and fund needed services for the project, as discussed in further detail in the Public Services and Utilities chapter of this EIR.	
(5) POLICY: The Commission discourages urban level development in unincorporated areas adjacent to city boundaries.C. Annexations	P-5 The proposed project land uses would be consistent with the adjacent Lincoln Highlands subdivision to the west and is adjacent to the existing City of Lincoln City boundary to the west and to the south.	
 POLICY-1 To allow for the evaluation of projected growth demand and its relationship to remaining lands to be developed within the city, proposals for annexations to a city or reorganizations including annexation to a city (except unincorporated islands and minor adjustments) shall be accompanied by the following: a) A market absorption study analyzing proposed uses in relation to similar uses within the city. The study shall: i. cover a 15 to 20 year planning horizon, ii. include all major land use categories proposed within annexation (residential, commercial, office and industrial), iii. identify project and citywide buildout capacities for the proposed land uses, iv. provide an analysis of the competitive strength of the affected city land uses within the regional market, and the proposed project land uses within the anticipated city capture of that regional market, v. contain a breakdown of projected absorption and supply margins over time by both land use and by geographic planning area within the city. At a minimum, the analysis should distinguish projected absorption between the proposed annexation area 	P-1a Should the proposed project's entitlements be approved by the Lincoln City Council an application for annexation would be filed with Placer County LAFCo, which would include a market absorption study.	

Table 4.7-3	
Local Plans and Agency Policy	y Policy Discussion Project Consistency
 and the existing (infill) portion of the city, and vi. include a summary of key assumptions and methodologies used in generating the absorption projections. b) Analysis of alternative project sites located elsewhere within the city or its existing sphere. This analysis shall be included as an alternative in the environmental document prepared for the proposed annexation or reorganization including annexation. If such alternative sites are determined not to be feasible as defined by CEQA, the environmental document shall include a discussion of the reasons and relevant data used to make determinations. LAFCO staff shall be afforded the opportunity to comment on the adequacy of the alternatives analysis prior to certification of the environmental document. 	P-1b The Alternatives Analysis chapter of this EIR analyzes potential alternatives to the proposed project, including an off-site alternative.
 POLICY-2 Unless special circumstances can be demonstrated, city annexations or reorganizations including city annexations shall be discouraged if there are feasible alternative sites for the annexation proposal already within the city. POLICY-3 Large development proposals that are proposed to be developed in phases may be annexed in phases, ensuring that growth occurs in a logical pattern. 	 P-2 The proposed project includes 144 single-family lots on a 40-acre property. The Alternatives Analysis chapter of this EIR analyzes potential alternatives to the proposed project, including an off-site alternative, and determined that there is a lack of available, sufficiently-sized properties within the City that have fewer environmental constraints than the proposed project site. P-3 The proposed project is anticipated to be developed in two phases; however, grading and utilities such as the drainage basin adjacent to the phase two residential units would need to be in place prior to development of phase one. Therefore, it would not be logical to annex the 40-acre tentative map site in two phases.
POLICY-4 All city annexations shall be pre-zoned. No subsequent change may be made to the general plan or zoning for the annexed territory that is not in conformance to the pre-zoning designations for a period of two years after the completion of the annexation.	P-4 The project site would be prezoned to the City's R-1 zoning district, which is consistent with the proposed LDR land use designation for the project site. There will be no need to subsequently change the zoning or general plan designations for the project site.

Should the proposed project's entitlements be approved by the Lincoln City Council, an application for annexation would be filed with Placer County LAFCo for review and consideration for approval. Placer County LAFCo is considered a responsible agency for this project, and as such, Table 4.7-3 includes discussions of the project's consistency with Placer County LAFCo's policies related to annexation.

As demonstrated in the table, the proposed project is generally consistent with the relevant Lincoln General Plan policies and the Placer County LAFCo policies. Therefore, the project would have a *less-than-significant* impact regarding consistency with any applicable land use plans, policies, or regulations of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.

Mitigation Measure(s) None required.

4.7-2 Convert Prime Farmland, Farmland of Statewide Importance, or Unique Farmland (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping Program of the California Resources Agency, to non-agricultural use or involve other changes in the existing environment which, due to their location or nature, could result in loss of Farmland to non-agricultural use. Based on the analysis below, the project would have *no impact*.

Public Resources Code 21060.1 defines "Agricultural land" as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. As illustrated in Figure 4.7-4 above, the DOC has defined the entire project area as Farmland of Local Importance, and based on the site's Storie Index and Land Capability ratings, there is no Prime agricultural land. Therefore, the project would have *no impact* regarding converting Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping Program of the California Resources Agency, to non-agricultural use. The project's effects on prime agricultural land, as defined by LAFCo statute, is addressed in the LAFCo policy section of Table 4.7-3.

Mitigation Measure(s) None required.

4.7-3 Conflict with existing zoning for agricultural use, or a Williamson Act contract. Based on the analysis below, the impact would be *less than significant*.

The project site is located in Placer County and currently has a Placer County zoning designation of F; however, the site is not currently being used for any agricultural activities, nor has the site been used for such activities for some time. In addition, consistent with the Cortese-Knox-Hertzberg Local Government Reorganization Act, prezoning shall be applied to annexation areas (see Gov. Code Section 56375). The project area would be prezoned to the City's R-1 District, which would be consistent with the proposed Lincoln General Plan land use designation of LDR for the project area. In

addition, as illustrated in Figure 4.7-5 above, the project area is identified as non-enrolled land and is not subject to a Williamson Act contract.

The undeveloped land to the north and east of the project site is within unincorporated Placer County and currently designated F by the County. Placer County maintains a Right-to-Farm Ordinance as section 5.24.040 of the County's Code of Ordinances. The Right-to-Farm Ordinance protects agricultural activity on lands designated for such purposes, by limiting the circumstances under which agricultural operations may be deemed to constitute a nuisance. Although agricultural use of the properties to the north and east of the project site is protected by the Right-to-Farm Ordinance, the most recent use of the northern property for agricultural activities was cattle grazing, which ceased circa 2003, while the properties to the east have not been used recently for agricultural activities.

Cattle grazing on the land to the north of the project site could create conflicts with the proposed residential development; however, the property is not anticipated to be used again for such activities, as it is too small to function as a viable cattle ranching operation. Additionally, the property to the north of the project site is within the Village 2 designation of the City's General Plan, and, thus, is anticipated for future village type development. Therefore, use of the property to the north of the project site for agricultural activities is not likely, and development of the project site for residential land uses is not likely to create a conflict with existing agricultural activities or future development.

With respect to the Farm-zoned properties to the east, across Hungry Hollow Road, due to the presence of rural residences and scattered oak trees, the properties have limited areas to support viable commercial agricultural operations. Limited activities could occur, however, such as raising of chickens.

As a result, the project applicant has committed to providing a deed notice to all home buyers regarding the potential agricultural uses of the properties to the north and east of the project site. Therefore, upon approval of the requested prezoning, the proposed project would result in a *less-than-significant* impact in regard to land that is currently zoned for agricultural use or enrolled in a Williamson Act contract.

Mitigation Measure(s) None required.

4.7-4 Conflict with adjacent land uses. Based on the analysis below, the impact would be *less than significant*.

The proposed project would have the potential to result in conflicts with adjacent land uses if the project were to introduce land uses that would be incompatible with existing, surrounding land uses. For instance, the nearby residential developments within the Lincoln Highlands and the rural residential developments to the east of the project site would be considered sensitive receptors to any land uses that would produce significant noise disturbance or air pollution. As discussed in the Air Quality and Greenhouse Gas Emissions section and the Noise section of this EIR, the residential development included in the proposed project would not be considered a major source of air pollution or noise. Additionally, the proposed project is a residential development, which is functionally similar to both the Lincoln Highlands and rural residential developments located west and east of the project site, respectively. The proposed residential project would also be compatible with the proposed LDR development within the Village 1 Specific Plan to the south. With respect to the rural residences to the east, it is noted that the 2.15-acre linear parcel between the tentative map site and Hungry Hollow Road (APN 021-250-001) is not proposed for development at this time. Rather, the parcel is anticipated to accommodate future widening of Hungry Hollow Road. The widened cross-section would include an approximately 50-foot landscaped buffer along the west side of Hungry Hollow Road, and would separate the proposed project site from the existing rural residential developments to the east of the site (see Impact 4.1-2 in the Aesthetics section for additional discussion).

As discussed in Impact 4.7-4, the undeveloped property to the north of the project site, as well as the rural residential properties to the east, are currently zoned Farm by the County. While these lands are not actively farmed, nor grazed at this time, the applicant has committed to providing a deed notice to all home buyers regarding the potential agricultural uses of the properties to the north and east of the project site.

In conclusion, the proposed project site is adjacent to, and consistent with, existing residential developments to the east and the west. Land to the south of the project site is anticipated to remain as open space, or be developed with compatible, low density residential land uses as part of Village 1 development. Land to the north and east of the project site is not anticipated to be used for agricultural purposes in the future; however, because the properties are currently zoned Farm by the County, the applicant will provide a deed notice to future home buyers for disclosure purposes. Therefore, the proposed project would have a *less-than-significant* impact regarding land use compatibility with existing and future, planned land uses.

Mitigation Measure(s) None required.

Cumulative Impacts and Mitigation Measures

The following discussion of impacts is based on the implementation of the proposed project in combination with other proposed and pending projects in the region. Other proposed and pending projects in the region under the cumulative context would include buildout of the City's General Plan, as well as development of the most recent planned land uses within the vicinity of the project area. Refer to Chapter 5, Statutorily Required Sections, of this EIR for more detail.

4.7-5 Cumulative land use and planning incompatibilities. Based on the analysis below, the cumulative impact is *less than significant*.

Land use incompatibility issues are site-specific impacts and mitigated, as necessary, on a project-by-project basis. The proposed project has been designed to be consistent with applicable aspects of the City's General Plan, and as described in Impact 4.7-1 and Table 4.7-3, the project would not result in incompatibilities with any of the surrounding land uses. Therefore, the project would not have combined land use effects with other cumulative development, resulting in a *less-than-significant* cumulative land use impact.

<u>Mitigation Measure(s)</u> None required.

4.7-6 Cumulative loss of Important Farmland. Based on the analysis below, the project would have *no impact* related to this cumulative impact.

While other cumulative development within the City's Planning Area could result in conversion of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland (referred to as "Important Farmland" in the certified General Plan Update EIR), the proposed project site is not considered any of these (see Impact 4.7-2). Thus, the project's effect would not combine with effects of other projects on these farmland categories. Therefore, the project would have *no impact* related to this cumulative impact.

<u>Mitigation Measure(s)</u> None required.

4.8 NOISE

4.8	

NOISE

4.8.1 INTRODUCTION

The Noise chapter of the EIR describes the existing noise environment in the project vicinity, and identifies potential impacts and mitigation measures related to the construction and operation of the Lincoln Meadows Project (proposed project). The method by which the potential impacts are analyzed is discussed, followed by the identification of potential impacts and the recommended mitigation measures designed to reduce significant impacts to less-than-significant levels. The Noise chapter is primarily based on the *Environmental Noise and Vibration Assessment Lincoln Meadows Residential Development* prepared by Bollard Acoustical Consultants, Inc. (see Appendix L).¹

4.8.2 EXISTING ENVIRONMENTAL SETTING

The Existing Environmental Setting section includes a discussion of acoustical terminology, the effects of noise on people, existing ambient and traffic noise levels in the project vicinity, existing sensitive receptors in the project vicinity, and groundborne vibration.

Noise Fundamentals and Terminology

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard, and are called sound. Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. Thus, the decibel scale was devised. The decibel scale allows a million-fold increase in pressure to be expressed as 120 decibels (dB). Another useful aspect of the decibel scale is that changes in levels correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable and can be approximated by weighting the frequency response of a sound level meter by means of the standardized A-weighting network. A strong correlation exists between A-weighted sound levels (expressed as dBA) and community response to noise. Thus, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this chapter are in terms of A-weighted levels in decibels. Figure 4.8-1 shows common A-weighted noise levels associated with various sources.

¹ Bollard Acoustical Consultants, Inc. Environmental Noise Assessment, Lincoln Meadows Residential Development. May 11, 2017.

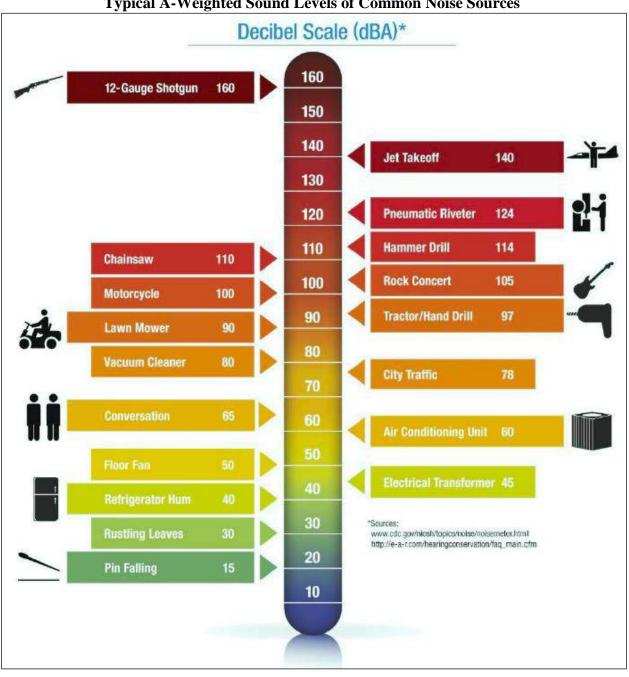


Figure 4.8-1 Typical A-Weighted Sound Levels of Common Noise Sources

Community noise is commonly described in terms of the "ambient" noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to describe the ambient noise level is the average, or equivalent, sound level (L_{eq}) over a given time period (usually one hour). The L_{eq} is the foundation of the Day-Night Average Level noise descriptor (L_{dn}) and shows very good correlation with community response to noise. The Community Noise Equivalent Level (CNEL) is defined as the 24-hour average noise level, with noise occurring during evening hours (7:00 PM to 10:00 PM) weighted by a factor of three and nighttime hours (10:00 PM to 7:00 AM) weighted by a factor of 10 prior to averaging.

Existing Noise Environment

The existing ambient noise environment in the immediate project vicinity is defined primarily by noise from traffic on Virginiatown Road and, to a lesser extent, by natural sounds and noise from traffic on Hungry Hollow Road, which is lightly travelled. Other substantive sources of ambient noise were not identified in the immediate project vicinity.

To quantify existing traffic noise levels in the project vicinity, noise surveys were conducted on the project site. Because Hungry Hollow Road did not carry a statistically significant volume of traffic to provide meaningful noise measurement results, the traffic noise survey focused on the location of the nearest proposed residences to Virginiatown Road. Specifically, continuous (24-hour) ambient noise monitoring was conducted at the project site on September 20, 2016 at the location shown on Figure 4.8-2.

The ambient noise monitoring results indicate that daytime and nighttime average noise levels were 60 and 54 dB L_{eq} , respectively, with a computed day/night average level of 62 dB L_{dn} . The complete continuous noise measurement results and graphical depictions of the results are included in Appendices B and C, respectively, of Appendix L to this EIR. The noise level data includes all sources of noise present during that 24-hour period, including nighttime automobile and heavy truck traffic on the local roadways, primarily Virginatown Road.

Existing Sensitive Receptors

The Lincoln Meadows project site is located within an unincorporated area of Placer County, near the intersection of Virginiatown Road and Hungry Hollow Road, immediately east of the City of Lincoln's boundary. The areas surrounding the project site predominately consist of vacant annual grasslands not in active agricultural use. However, the existing Lincoln Highlands subdivision to the west, and grassland/woodland habitats with sparse single-family residences to the east represent existing sensitive receptors in the project vicinity that could be affected by the proposed project.

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Figure 4.8-2 Noise Measurements Location



Vibration Fundamentals

Vibration is like noise in that vibration involves a source, a transmission path, and a receiver. While related to noise, vibration differs in that noise is generally considered to be pressure waves transmitted through air, while vibration is usually associated with transmission through the ground or structures. As with noise, vibration consists of an amplitude and frequency. A person's response to vibration depends on their individual sensitivity, as well as the amplitude and frequency of the source.

Vibration could be described in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities (p.p.v.) in inches per second (in/sec). Standards pertaining to perception as well as damage to structures have been developed for vibration in terms of peak particle velocity.

As vibrations travel outward from the source, they excite the particles of rock and soil through which they pass and cause them to oscillate. Differences in subsurface geologic conditions and distance from the source of vibration results in different vibration levels characterized by different frequencies and intensities. In all cases, vibration amplitudes decrease with increasing distance. The maximum rate, or velocity of particle movement, is the commonly accepted descriptor of the vibration "strength".

Human response to vibration is difficult to quantify. Vibration could be felt or heard well below the levels that produce any damage to structures. The duration of the event has an effect on human response, as does the frequency of the event. Generally, as the duration and vibration frequency increase, the potential for adverse human response increases.

Operation of construction equipment and construction techniques generate ground vibration. Traffic traveling on roadways could also be a source of vibration. At high-enough amplitudes, ground vibration has the potential to damage structures and/or cause cosmetic damage (e.g., crack plaster). Ground vibration could also be a source of annoyance to individuals who live or work close to vibration-generating activities. However, traffic, including heavy trucks traveling on a highway, rarely generates vibration amplitudes high enough to cause structural or cosmetic damage.

Because existing discernible sources of vibration were not identified through project area inspections, existing ambient vibration monitoring was not conducted for the proposed project.

4.8.3 REGULATORY CONTEXT

In order to limit exposure to physically and/or psychologically damaging noise levels, the State of California, various county governments, and most municipalities in the State have established standards and ordinances to control noise. The following provides a general overview of the existing federal, State, and local regulations established regarding noise that are relevant to the proposed project.

Federal Regulations

The Federal Interagency Committee on Noise (FICON) provides guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, the recommendations have been widely accepted as being applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the L_{dn} . The FICON criteria are presented in the Standards of Significance section below.

State Regulations

The following are the State environmental laws and policies relevant to noise.

California State Building Codes

The State Building Code, Title 24, Part 2 of the State of California Code of Regulations establishes uniform minimum noise insulation performance standards to protect persons within new buildings which house people, including hotels, motels, dormitories, apartment houses, and dwellings other than single-family dwellings. The requirements are collectively known as the California Noise Insulation Standards. Title 24 mandates that interior noise levels attributable to exterior sources shall not exceed 45 dB L_{dn}/CNEL in any habitable room. Title 24 also mandates that for structures containing noise-sensitive uses to be located where the L_{dn}/CNEL exceeds 60 dB, an acoustical analysis must be prepared to identify mechanisms for limiting exterior noise to the prescribed allowable interior levels. If the interior allowable noise levels are met by requiring that windows be kept closed, the design for the structure must also specify a ventilation or air conditioning system to provide a habitable interior environment. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

Local Regulations

Chapter 6, General Plan Policy Consistency, identifies adopted General Plan policies that are relevant to the evaluation of noise impacts and an evaluation of consistency with those policies. No inconsistencies with the General Plan policies are identified. However, while City staff has done its best to ascertain consistency, the Lincoln City Council makes the ultimate decision regarding consistency with the General Plan.

4.8.4 IMPACTS AND MITIGATION MEASURES

The Impacts and Mitigation Measures section describes the standards of significance and methodology utilized to analyze and determine the proposed project's potential impacts related to noise and vibration. A discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, a significant impact would occur if the proposed project would result in the following:

- 1. Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- 2. Expose persons to, or generate, excessive groundborne vibration or groundborne noise levels;
- 3. Cause a substantial permanent increase in ambient noise levels in the project vicinity above existing levels without the project;
- 4. Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing levels without the project;
- 5. Expose persons residing or working in the project area to excessive noise levels if 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; or
- 6. Expose persons residing or working in the project area to excessive noise levels if located within the vicinity of a private airstrip.

Certain of the above general CEQA thresholds require more specific applications, as follows:

Threshold #1 – Standards in Adopted Local General Plan

The City will strive to achieve exterior noise levels for existing and future dwellings in residential areas that do not exceed exterior noise levels of 60 dBA CNEL and interior noise levels of 45 dBA CNEL.

Threshold #2 - Vibration

Although the City of Lincoln does not have specific vibration standards, CEQA requires an evaluation of potential vibration-related impacts of a project. Lacking local vibration standards, criteria developed for Caltrans are utilized in this assessment for the evaluation of vibration impacts for the project. Table 4.8-1 indicates that the threshold for damage to structures ranges from 2 to 6 in/sec. One-half the minimum threshold, or 1 in/sec ppv, is considered a safe criterion by Caltrans that would protect against architectural or structural damage. The general threshold at which human annoyance could occur is notes as 0.1 in/sec ppv.

Table 4.8-1 General Human and Structural Responses to Vibration Levels			
Effect on Structures and People	Peak Vibration Threshold (in/sec PPV)		
Structural damage to commercial structures	6.0		
Structural damage to residential buildings	2.0		
Architectural damage	1.0		
General threshold of human annoyance	0.1		
General threshold of human perception	0.01		
Source: Bollard Acoustical Consultants, Inc., 2017.			

Threshold #3 – Substantial Permanent Increase

FICON provides guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, the recommendations have been widely accepted as being applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the L_{dn} (see Table 4.8-2).

Table 4.8-2 Significance of Changes in Noise Exposure			
Ambient Noise Level Without Project, Ldn Increase Required for Significant Impact			
<60 dB	+5.0 dB or more		
60-65 dB +3.0 dB or more			
>65 dB +1.5 dB or more			
Source: FICON.			

According to Table 4.8-2 above, an increase in noise from similar sources of 5 dB or more would be noticeable where the ambient level is less than 60 dB. Where the ambient level is between 60 and 65 dB, an increase in noise of 3 dB or more would be noticeable, and an increase of 1.5 dB or more would be noticeable where the ambient noise level exceeds 65 dB L_{dn} . The rationale for the Table 4.8-2 criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause annoyance.

Issues Not Discussed Further

It should be noted that the Initial Study prepared for the proposed project (see Appendix C) identified that the western boundary of the proposed project site lies approximately 3.9 miles east of the Lincoln Regional Airport. According to the Lincoln Regional Airport Land Use Compatibility Plan (ALUCP), the project falls approximately 1.7 miles outside of the Airport Influence Area, and is consequently exempt from any of the policies and regulations prescribed in the ALUCP. Therefore, development of the proposed project would result in a finding of no impact related to the following:

- 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; or
- 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.

Accordingly, impacts related to the above are not further analyzed or discussed in this EIR chapter.

Method of Analysis

The methodology used for the Environmental Noise and Vibration Assessment prepared for the proposed project is summarized below.

Existing Ambient Noise Measurement Methodology

To quantify existing Virginiatown Road traffic noise levels in the project area, continuous (24hour) ambient noise monitoring was conducted at the project site on September 20, 2016 at the location shown on Figure 4.8-2. Because Hungry Hollow Road did not carry a statistically significant volume of traffic to provide meaningful noise measurement results, the traffic noise survey focused on the location of the nearest proposed residences to Virginiatown Road. A Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meter was used for the ambient noise level measurement survey. The meter was calibrated before use with an LDL Model CA200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4). The noise level meter was programmed to record the maximum and average noise level during each hour of the noise survey, in addition to other statistical descriptors. The complete continuous noise measurement results and graphical depictions of the results are shown in Appendices B and C, respectively, of Appendix L to this EIR. The noise level data included in Appendix L spans the complete 24-hour period of September 20, 2016. As a result, the data includes all sources of noise present during that 24-hour period, including nighttime automobile and heavy truck traffic on the local roadways, primarily Virginatown Road.

Traffic Noise Prediction Methodology

The FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108) with the Calveno vehicle noise emission curves was used to predict traffic noise levels at the project site. The FHWA Model is the traffic noise prediction model preferred by the FHWA and the Caltrans for use in traffic noise assessment. The FHWA Model provides reasonably accurate traffic noise predictions under "ideal" roadway conditions. Ideal conditions are generally considered to be long straight roadway segments with uniform vehicle speeds, a flat roadway surface, good pavement conditions, a statistically large volume of traffic, and an unimpeded view of the roadway from the receiver location. Such conditions did not appear to be in effect at the proposed project site due to varied traffic speed and frequency of vehicle passbys. As a result, Bollard Acoustical Consultants, Inc. conducted a calibration of the FHWA Model through site-specific traffic noise level measurements and concurrent traffic counts.

The calibration process was performed for Virginiatown Road on the project site for 15 minutes at 12:58 PM on December 4, 2015. The traffic noise measurement location is shown in Figure 4.8-2. The detailed results of the aforementioned procedure are provided in Appendix D of Appendix L to this EIR. The FHWA Model was found to reasonably predict traffic noise levels at the measurement site. As a result, calibration adjustment to the FHWA Model were not applied for the prediction of future traffic noise levels at the project site. Due to the low traffic volume on Hungry Hollow Road, a traffic calibration could not be performed for the roadway.

The FHWA Model was used with future traffic data to predict future Virginiatown Road and Hungry Hollow Road traffic noise levels at the nearest noise-sensitive interior and exterior areas on the project site, which are located adjacent to the roadways. The future Average Daily Traffic (ADT) volumes were obtained from the technical transportation and circulation analysis prepared for the proposed project by Fehr & Peers Transportation Consultants. The FHWA Model inputs are shown in Appendix E of Appendix L to this EIR. The FHWA Model was used with the traffic data to predict Existing and Existing Plus Project traffic noise levels, and the project-related noise level increases. The FHWA Model input data is contained in Appendix G of Appendix L to this EIR.

Using the same methodology described above, traffic noise levels were predicted for Cumulative (future) No Project and Cumulative Plus Project conditions.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on implementation of the proposed project in comparison with the standards of significance identified above.

4.8-1 Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Based on the analysis below, and with implementation of mitigation, the impact is *less than significant*.

As compared to commercial and industrial projects that typically include stationary operational noise sources over the lifetime of operations (e.g., truck deliveries, loading/receiving docks, HVAC equipment, parking lot activity, generators, and/or other stationary equipment), substantial operational noise levels would not occur due to the residential nature of the proposed project. Therefore, operational noise impacts are not evaluated in this EIR.

On-site Exterior Noise Levels

Based on the Environmental Noise and Vibration Assessment prepared for the proposed project, the predicted Existing Plus Project traffic noise levels at the nearest backyards and building facades on the project site associated with traffic along the adjacent roadways are summarized in Table 4.8-3.

Table 4.8-3Predicted Existing Plus Project Traffic Noise Levels at the Nearest Lots						
Roadway	Distance FromPredicted NoiseDescriptionCenterline (feet)Level (Ldn, dB)					
	Nearest Backyards	65	63			
Virginiatown Road	Nearest Facades	80	61			
	Nearest Upper-Floor Facades	80	64			
	Nearest Backyards	90	55			
Hungry Hollow Road	Nearest Facades	115	54			
	Nearest Upper-Floor Facades	115	57			
Sources: Bollard Acoustical Consultants, Inc., 2017; Fehr & Peers Transportation Consultants, 2017.						

As shown in Table 4.8-3, annual average Existing Plus Project Virginiatown Road and Hungry Hollow Road traffic noise levels at the nearest backyard outdoor activity areas on the proposed project site would comply with the City of Lincoln exterior noise level standard of 60 dB L_{dn} /CNEL along Hungry Hollow Road, but not along Virginiatown Road.

As a result, the effectiveness of the inclusion of a solid noise barrier adjacent to Virginiatown Road was evaluated for the reduction of traffic noise levels to compliance with the City of Lincoln 60 dB L_{dn} /CNEL exterior standard at outdoor activity areas. Detailed noise barrier inputs and results are included in Appendix F of Appendix L to this EIR, and the results are summarized below in Table 4.8-4.

The Table 4.8-4 data indicates that a solid noise barrier of six feet in height relative to the residential pad elevation would be required to satisfy the City's 60 dB L_{dn} /CNEL exterior noise standard at the nearest proposed Lincoln Meadows residences adjacent to Virginiatown Road. However, in order to ensure that the sound wall mitigates cumulative traffic noise levels, the wall should be constructed at a height of seven feet, per Table 4.8-9. A seven foot wall would also be consistent with the seven-foot-tall barrier constructed at the residential development to the immediate west of the proposed project site (i.e., Lincoln Highlands). Recommended noise barrier locations are shown in Figure 4.8-3**Error! Reference source not found.**

Table 4.8-4 Noise Barrier Effectiveness				
Roadway Barrier Height (feet) Resulting Noise Level (dB				
0 (no barrier)	63			
6	56			
7	54			
	Noise Barrier Effectiveness Barrier Height (feet)			

On-site Interior Noise Levels

As shown in Table 4.8-3, with reduced ground absorption, noise levels of up to 63 dB L_{dn} would be experienced at upper-floor facades located along Virginiatown Road and 57 dB L_{dn} along Hungry Hollow Road. As a result, building facade noise reductions of up to 18 dB would be required to achieve compliance with the City of Lincoln 45 dB L_{dn} interior noise standard.

Standard residential construction (wood siding, Sound Transmission Class [STC]-27 windows, door weather-stripping, exterior wall insulation, composition plywood roof) results in an exterior to interior noise reduction of at least 25 dB with windows closed and approximately 15 dB with windows open. Therefore, standard construction would be acceptable for all residences in the proposed development for Existing Plus Project traffic noise levels.

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Figure 4.8-3 Recommended Noise Barrier Locations

Conclusion

As discussed above, Existing Plus Project traffic noise levels at the nearest proposed outdoor activity areas would not exceed the applicable City of Lincoln exterior noise level standard of 60 dB L_{dn} /CNEL along Hungry Hollow Road, but would along the segment of Virginiatown Road adjacent to the proposed residences. With respect to interior noise levels, maximum indoor noise levels anticipated on the project site would not exceed the 45 dB L_{dn} /CNEL indoor noise level standard set forth per Title 24.

In conclusion, the proposed project would have a *significant* impact with respect to exposing persons to noise levels in excess of (exterior noise) standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level by reducing exterior noise levels at the residences proposed adjacent to Virginiatown Road to a state of compliance with City of Lincoln noise standards for new residential development.

4.8-1 Consistent with the Environmental Noise and Vibration Assessment prepared by Bollard Acoustical Consultants, Inc., prior to approval of improvement plans, the plans shall show a seven-foot-tall noise barrier to be erected on Virginiatown Road, as shown in Figure 4.8-3 of the Lincoln Meadows EIR, subject to review and approval by the City Engineer. The barrier height shall be seven feet relative to the building pad elevation for the proposed project.

4.8-2 Cause a substantial permanent increase in ambient noise levels in the project vicinity above existing levels without the project. Based on the analysis below, the impact is *less than significant*.

Implementation of the proposed project would result in an increase in traffic volumes on the local roadway network. The increase in daily traffic volumes would result in a corresponding increase in traffic noise levels. Table 4.8-5 presents the Existing and Existing Plus Project traffic noise levels along roadways segments in the regional roadway network.

According to Table 4.8-2 above, an increase in noise of five dB or more would be considered significant where the ambient level is less than 60 dB L_{dn} . Where the ambient level is between 60 and 65 dB L_{dn} , an increase in noise of three dB or more would be significant, and an increase of 1.5 dB or more would be significant where the ambient noise level exceeds 65 dB L_{dn} . According to Table 4.8-5, the proposed project would not be considered to result in a significant increase in off-site traffic noise levels relative to existing conditions because the thresholds of significance, which are based on existing traffic noise levels without the project, range from 3-5 dB, and the predicted increases due

Table 4.8-5 Existing vs. Existing Plus Project Traffic Noise Levels (dB Ldn at 50 feet from roadway centerline)					
Roadway	Segment Description	Existing	Existing Plus Project	Change	Substantial Increase?
East Avenue	North of 7th Street	63.3	63.8	0.5	No
East Avenue	South of 7th Street	63.6	63.9	0.3	No
7th Street	East of East Avenue	49.4	49.4	0.0	No
7th Street	West of East Avenue	60.3	60.6	0.3	No
East Avenue	South of 12th Street	62.5	63.1	0.6	No
12th Street	East of East Avenue	60.4	61.1	0.7	No
12th Street	West of East Avenue	55.9	56.1	0.2	No
McCourtney Road	North of Virginiatown Road	59.5	59.7	0.1	No
Harrison Avenue	South of Virginiatown Road	46.9	46.9	0.0	No
12th Street	West of McCourtney Road	59.7	60.6	0.8	No
Hungry Hollow Road	North of Virginiatown Road	56.0	58.0	1.9	No
Oak Tree Lane	South of Virginiatown Road	Roadway Does Not Exist			
Virginiatown Road	East of Hungry Hollow Road	57.9	58.2	0.3	No
Virginiatown Road	West of Hungry Hollow Road	62.7	64.3	1.6	No
Sources: Bollard Acousti	cal Consultants, Inc., 201	7; Fehr & Pee	ers Transpor	tation Consi	ultants, 2017.

to the project do not exceed 1.9 dB. Therefore, the proposed project would not cause a substantial permanent increase in ambient noise levels in the project vicinity above existing levels without the project, resulting in a *less-than-significant* impact.

Mitigation Measure(s) None required.

4.8-3 Expose persons to, or generate, excessive groundborne vibration or groundborne noise levels. Based on the analysis below, the impact is *less than significant*.

During field visits to the site, Bollard Acoustical Consultants, Inc. staff subjectively evaluated vibration levels as being below the threshold of perception. In addition, the proposed residential uses within the project would not introduce any new significant sources of vibration because typical residential activities are not impulsive in nature. As a result, long-term vibration impacts would not occur as a result of the proposed project. However, short-term increases in vibration during construction activities would result in vibration in the immediate vicinity of heavy earthmoving equipment operations. Table 4.8-6 contains reference peak particle velocity data for various types of construction equipment that are expected to be used during project construction, based on Table 18 of the *Transportation and Construction Vibration Guidance Manual* (Caltrans, September 2013).

Table 4.8-6Vibration Amplitudes for Construction Equipment				
Measurement Distance Peak Particle Velocity				
Vibration Source	(feet) (in/sec)			
Vibratory Roller	25	0.210		
Large Bulldozers 25 0.089				
Loaded Trucks	25	0.076		
Jackhammer 25 0.035				
Source: Bollard Acoustical Consultants, Inc., 2017.				

The vibration data shown in Table 4.8-6 indicate that, with the exception of the vibratory roller, heavy equipment-generated vibration levels would be below the thresholds for annoyance and damage to structures even at the very close measurement locations of 25 feet from the operating equipment.

The existing residences nearest to the project site are separated from proposed residences by distances of 200 feet or more. Falloff due to spherical spreading of vibration waves as they radiate away from the source would result in a peak particle velocity of approximately 0.021 in/sec or less at such distances, which would be well below the 1 in/sec p.p.v. threshold for architectural or structural damage to structures and the 0.1 in/sec p.p.v threshold for human perception. Therefore, the proposed project would not expose persons to, or generate, excessive groundborne vibration or groundborne noise levels during construction, and impacts would be *less than significant*.

Mitigation Measure(s) None required.

4.8-4 Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing levels without the project. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As discussed in the Air Quality and Greenhouse Gas Emissions chapter of this EIR, based on information provided by the project applicant, upon project approval, construction is assumed to commence in April 2018 and would occur over an approximately four-year period. During project construction, heavy equipment would be used for grading excavation, paving, and building construction, which would temporarily increase ambient noise levels when in use. Noise levels would vary depending on the type of equipment used, how the equipment is operated, and how well the equipment is maintained. Noise exposure at any single point outside the project site would also vary depending on the proximity of construction activities to that point. Standard construction equipment, such as graders, backhoes, loaders, and trucks, would be used for the proposed project construction work.

The range of maximum noise levels for various types of construction equipment at a distance of 50 feet is provided in Table 4.8-7. The noise values represent maximum noise generation, or full-power operation, of the equipment. As one increases the distance between equipment, or separation of areas with simultaneous construction activity increases, attenuation of sound that naturally occurs over distance will reduce the effects of combining separate noise sources.

Table 4.8-7 Construction Equipment Noise Emission Levels			
Type of Equipment Typical Sound Level (dBA) at 5			
Air compressor	81		
Backhoe	80		
Compactor	82		
Concrete mixer	85		
Concrete pump	82		
Concrete vibrator	76		
Crane, mobile	83		
Dozer	85		
Generator	81		
Grader	85		
Impact wrench	85		
Jackhammer	88		
Loader	85		
Paver	89		
Pneumatic tool	85		
Pump	76		
Roller	74		
Saw	76		
Truck 88			
Source: Federal Transit Administration, 2006.			

Noise would also temporarily be generated during the construction phase by increased truck traffic on area roadways. The project-generated truck traffic associated with transport of heavy materials and equipment to and from the construction site could be considered a significant short-term increase in noise levels, given the relatively low ambient noise environment in the project vicinity and the proximity of the nearest existing residences to the west.

Because the proposed project could cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing levels without the project during construction, impacts would be considered *significant*.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level by reducing construction noise level increases to less than 5 dB at the nearest off-site sensitive receptors.

- 4.8-4(a) The project contractor shall ensure that construction activities shall be limited to the hours allowed in the City's Public Facilities Improvement Standards between 7:00 AM to 7:00 PM, Monday through Friday. If construction is necessary on Saturday, Sunday and Holidays the applicant shall submit a written request to the Director of Public Works or City Engineer, as applicable, 72-hours prior to the desired construction. If work is allowed outside aforementioned work hours, the applicant shall have a copy of the written approval available at the work site. The construction activities hours shall be included in the grading plan submitted by the developer for review and approval by the City Engineer prior to grading permit issuance.
- 4.8-4(b) The project contractor shall ensure that all internal combustion engines associated with stationary and mobile construction equipment to be used on the project site shall have adequate mufflers equal to or better than those supplied with the equipment by the manufacturer. The muffler requirement shall be included in the grading plan submitted by the developer for review and approval by the Community Development Department prior to grading permit issuance.
- 4.8-4(c) All construction equipment with back-up alarms shall be equipped with either audible self-adjusting backup alarms or alarms that only sound when an object is detected. The self-adjusting backup alarms shall automatically adjust to 5 dBA over the surrounding background levels. All non-selfadjusting backup alarms shall be set to the lowest setting required to be audible above the surrounding noise levels. In addition to the use of backup alarms, the construction contractor shall consider other techniques such as observers and the scheduling of construction activities such that alarm noise is minimized.
- 4.8-4(d) The project contractor shall ensure that the on-site construction staging areas shall be located as far as practical from existing residential areas. The aforementioned requirement shall be included in the grading plan submitted by the developer for review and approval by the Community Development Department prior to grading permit issuance.

Cumulative Impacts and Mitigation Measures

The following discussion of cumulative impacts is based on the implementation of the proposed project in combination with all planned and approved projects, as well as roadway network considerations. As discussed in further detail in the Transportation and Circulation chapter of this EIR, roadway network improvements assumed under cumulative conditions include the SR 65/Whitney Ranch Interchange, the Oak Tree Lane extension to the intersection of Virginiatown Road/Hungry Hollow Road, and the extension of Ferrari Ranch Road to Oak Tree Lane. Other planned, proposed, and pending projects in the region under the cumulative context would include buildout of the City's General Plan, as well as development of the most recent planned land uses within the vicinity of the project area. Cumulative traffic noise levels were predicted using the FHWA Model with future traffic data obtained from the technical transportation and circulation analysis prepared for the proposed project by Fehr & Peers Transportation Consultants. Refer to Chapter 5, Statutorily Required Sections, of this EIR for more detail.

The following impact addresses the project's incremental traffic noise level increase, in combination with traffic noise from cumulative development. As compared to commercial and industrial projects that typically include stationary operational noise sources over the lifetime of operations (e.g., truck deliveries, loading/receiving docks, HVAC equipment, parking lot activity), substantial operational noise levels would not occur due to the residential nature of the proposed project; therefore, an analysis of cumulative operational noise impacts associated with stationary sources is not warranted in this EIR. Furthermore, because construction noise is highly localized, combined construction noise levels from other construction sites in the project vicinity would be inconsequential. As a result, cumulative construction noise impacts need not be evaluated.

4.8-5 Cumulative on-site noise impacts. Based on the analysis below and with implementation of mitigation, the cumulative impact is *less than cumulatively considerable*.

On-site Exterior Noise Levels

Based on the Environmental Noise and Vibration Assessment prepared for the proposed project, the predicted Cumulative Plus Project traffic noise levels at the nearest backyards and building facades on the project site associated with traffic along the adjacent roadways are summarized in Table 4.8-8. As shown in Table 4.8-8, future Hungry Hollow Road traffic noise levels at the nearest backyard outdoor activity areas on the proposed project site would be below the City of Lincoln exterior noise level standard of 60 dB $L_{dn}/CNEL$ (as indicated in Table 4.8-2). However, Cumulative Plus Project Virginiatown Road traffic noise levels at the nearest proposed backyard outdoor activity areas are predicted to exceed the 60 dB $L_{dn}/CNEL$ standard by approximately 8 dB.

Table 4.8-8Predicted Cumulative Plus Project Traffic Noise Levels at the Nearest On-SiteLots				
Roadway	Description	Distance From Centerline (feet)	Predicted Noise Level (L _{dn} , dB)	
	Nearest Backyards	65	68	
Virginiatown Road	Nearest Facades	80	67	
	Nearest Upper-Floor Facades	80	70	
	Nearest Backyards	90	58	
Hungry Hollow Road	Nearest Facades	115	57	
	Nearest Upper-Floor Facades	115	60	
Sources: Bollard Acoustical Consultants, Inc., 2017; Fehr & Peers Transportation Consultants, 2017.				

As a result, the effectiveness of the inclusion of a solid noise barrier adjacent to Virginiatown Road was evaluated for the reduction of traffic noise levels to compliance with the City of Lincoln 60 dB L_{dn} /CNEL exterior standard at outdoor activity areas. Detailed noise barrier inputs and results are included in Appendix F of Appendix L to this EIR, and the results are summarized below in Table 4.8-9.

Table 4.8-9 Noise Barrier Effectiveness				
RoadwayBarrier Height (feet)Resulting Noise Level (dBLdn/CNEL) with Barrier				
	0 (no barrier)	68		
Winsinistern Basel		61		
Virginiatown Road	7	60		
	8	59		
Source: Bollard Acoustical Consultants, Inc., 2017.				

The Table 4.8-9 data indicates that a solid noise barrier of seven feet in height relative to the residential pad elevation would be required to satisfy the City's 60 dB L_{dn} /CNEL exterior noise standard at the nearest proposed Lincoln Meadows residences adjacent to Virginiatown Road. In addition, a seven-foot wall would be consistent with the seven-foot-tall barrier constructed at the residential development to the immediate west of the proposed project site (i.e., Lincoln Highlands). Recommended noise barrier locations are shown in Figure 4.8-3.

On-site Interior Noise Levels

After construction of the required noise barrier, Cumulative Plus Project traffic noise levels at the nearest first-floor facades are predicted to be less than 60 dB L_{dn} . At upper-floor facades, reduced ground absorption and lack of shielding by the required barrier would result in noise levels of up to 70 dB L_{dn} at upper-floor facades located along Virginiatown Road and 60 dB L_{dn} along Hungry Hollow Road. As a result, building facade noise reductions of up to approximately 25 dB would be required to achieve compliance with the City of Lincoln 45 dB L_{dn} interior noise standard.

Standard residential construction (wood siding, STC-27 windows, door weather-stripping, exterior wall insulation, composition plywood roof) results in an exterior to interior noise reduction of at least 25 dB with windows closed and approximately 15 dB with windows open. Therefore, it is anticipated that standard construction would be acceptable for all residences in the proposed development. However, to provide an additional measure of safety, all upper-floor windows of residences located along Virginiatown Road, with a view of the roadway, are recommended to be upgraded to an STC rating of 32.

Conclusion

As discussed above, Cumulative Plus Project Virginiatown Road traffic noise levels at the nearest proposed outdoor activity areas would exceed the applicable City of Lincoln exterior noise level standard of 60 dB L_{dn} /CNEL. In addition, maximum indoor noise levels anticipated at upper floor facades along Virginiatown Road could exceed the 45 dB L_{dn} /CNEL indoor noise level standard set forth per Title 24. Therefore, the proposed project could expose persons to noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, and the project's incremental contribution would be considered *cumulatively considerable*.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above cumulative impact to a *less-than-cumulatively-considerable* level by reducing exterior and interior noise levels at the residences proposed adjacent to Virginiatown Road that would achieve compliance with City of Lincoln noise standards for new residential development.

- *4.8-5(a) Implement Mitigation Measure 4.8-1.*
- 4.8-5(b) Prior to issuance of Building Permits, the applicant shall show on the construction drawings that all upper-floor windows of residences located adjacent to Virginiatown Road, with views of the roadway, shall be upgraded to STC-32, to control interior noise and achieve the City's interior noise standards, for review and approval by the City Building Official.

4.8-6 Cumulative off-site noise impacts. Based on the analysis below, the project's contribution to a cumulative impact is *less than cumulatively considerable*.

According to Table 4.8-2, above, an increase in noise of 5 dB or more would be considered significant where the ambient level is less than 60 dB L_{dn} . Where the ambient level is between 60 and 65 dB L_{dn} , an increase in noise of 3 dB or more would be significant, and an increase of 1.5 dB or more would be significant where the ambient noise level exceeds 65 dB L_{dn} .

The results of the cumulative off-site traffic noise analysis are presented in Table 4.8-10. As shown in the table, the proposed project would not be considered to result in a significant increase in off-site traffic noise levels relative to Cumulative No Project

	Table 4.8-10 Cumulative vs. Cumulative Plus Project Traffic Noise Levels				
		50 feet from roady			
Roadway	Segment Description	Cumulative	Cumulative Plus Project	Change	Substantial Increase?
East Avenue	North of 7th Street	64.0	64.2	0.1	No
East Avenue	South of 7th Street	64.9	65.0	0.1	No
7th Street	East of East Avenue	51.1	51.1	0.0	No
7th Street	West of East Avenue	63.6	63.7	0.1	No
East Avenue	South of 12th Street	63.8	63.9	0.0	No
12th Street	East of East Avenue	64.8	64.9	0.1	No
12th Street	West of East Avenue	63.7	63.8	0.1	No
McCourtney Road	North of Virginiatown Road	63.2	63.2	0.0	No
Harrison Avenue	South of Virginiatown Road	54.1	54.1	0.0	No
12th Street	West of McCourtney Road	64.7	64.8	0.1	No
Hungry Hollow Road	North of Virginiatown Road	59.9	60.8	0.9	No
Oak Tree Lane	South of Virginiatown Road	67.6	68.0	0.3	No
Virginiatown Road	East of Hungry Hollow Road	65.2	65.2	0.1	No
Virginiatown Road	McCourtney Road to Virginiatown Road	70.0	70.2	0.2	No
Sources: Bollard Acoustica	al Consultants, Inc., 2017; Fehr & Peer	rs Transportation Cons	ultants, 2017		

Conditions. Therefore, the increase in noise due to the proposed project would not be a substantial increase to the future noise environment, and the proposed project's incremental contribution to cumulative noise impacts would be *less than cumulatively considerable*.

<u>Mitigation Measure(s)</u> None required.

4.9 PUBLIC SERVICES AND UTILITIES

PUBLIC SERVICES AND UTILITIES

4.9.1 INTRODUCTION

The Public Services and Utilities chapter of the EIR summarizes the setting information and identifies potential new demands resulting from the proposed project on fire and police protection services, schools, parks, water supply, wastewater systems, solid waste disposal, and gas and electric infrastructure. Information for Public Services and Utilities chapter is primarily based on the *City of Lincoln General Plan¹* and associated *EIR*,² the *City of Lincoln 2015 Urban Water Management Plan* (UWMP),³ the *Lincoln Meadows Sewer Study* (see Appendix M),⁴ and the *Lincoln Meadows Water Study* (see Appendix N).⁵

4.9.2 EXISTING ENVIRONMENTAL SETTING

The following section describes the existing fire and police protection services in the area, school and park facilities, as well as existing utilities, including water supply, wastewater conveyance and treatment, solid waste, and gas and electric infrastructure.

Fire Protection Services

The project site is located within an unincorporated area of Placer County and within the Western Placer Fire County Service Area (CSA) 28 Zone 76. Within the Western Placer Fire CSA, Placer County provides fire protection services to the project site and surrounding area through a contract with The California Department of Forestry and Fire Protection (CAL FIRE). The CAL FIRE Lincoln Fire Station is located at 301 Oak Tree Lane, approximately 1.5 miles south of the project site.

The proposed project includes a request for annexation of the 43.87-acre project area from Placer County to the City of Lincoln. Therefore, annexation of the project site to the City of Lincoln would require Placer County Local Agency Formation Commission approval of the detachment of the project site from Western Placer Fire CSA 28 Zone 76, as the City of Lincoln Fire Department (LFD) would provide fire protection services to the proposed project upon annexation. The LFD currently shares staff members with the City of Rocklin through a service agreement. The shared staff splits their time 50/50 between the two cities, and includes a shared fire chief, two division chiefs, and three shared battalion chiefs. In addition, one Fire Prevention Officer (FPO) is shared between the two departments; the FPO spends 90 percent of their time in Rocklin and 10 percent

¹ City of Lincoln. *City of Lincoln General Plan*. March 2008.

² City of Lincoln. General Plan Update Final Environmental Impact Report. February 2008.

³ City of Lincoln. 2015 Urban Water Management Plan. Adopted July 2016.

⁴ Baker-Williams Engineering Group. *Lincoln Meadow Sewer Study*. February 2016.

⁵ Baker-Williams Engineering Group. *Lincoln Meadow Water Study*. October 2015.

in Lincoln. Staff solely located at the LFD includes nine fire captains, nine firefighters, 10 reserve firefighters, four volunteer firefighters, two administrative volunteers, and 20 Community Emergency Response Team (CERT) Volunteers.⁶

The LFD consists of the following three fire stations:

- Fire Station 33, located at 17 McBean Park Drive;
- Fire Station 34, located at 126 East Joiner Parkway; and
- Fire Station 35, 2525 East Joiner Parkway.

The nearest LFD station to the project site is Station 33, located approximately 1.2 miles southwest of the project site. The LFD strives to maintain a minimum of six personnel on shift every day. The LFD responds to various emergency and non-emergency incidents including, but not limited to, all types of fire, medical emergencies, public assists, and hazardous situations. LFD call volume has more than quadrupled since 2001 from 980 calls for service to 4,650 calls for service in 2016.⁷ The City of Lincoln General Plan Policy PFS-8.4 calls for a five-minute fire response time goal. According to the LFD, the project access driveway on Virginiatown Road is within the LFD's five-minute response time goal.⁸

The Twelve Bridges Specific Plan includes a planned fire station at the southeast corner of the intersection of Twelve Bridges Drive and Stonebridge Boulevard. Potential environmental impacts associated with construction of the new fire station were analyzed within the Twelve Bridges Specific Plan EIR and associated Addendum.⁹

Police Protection Services

The Placer County Sheriff's Department provides law enforcement services to the unincorporated areas of Placer County. The Auburn Justice Center (AJC), located at 2929 Richardson Drive, is the main operations office and is located approximately nine miles northeast of the project site. As described above, the proposed project includes a request for annexation from Placer County to the City of Lincoln. Therefore, upon annexation into the City of Lincoln, the Lincoln Police Department (LPD) would provide police protection services for the 43.87-acre site. The Lincoln Police Station, located at 770 7th Street, is approximately 16,000 square feet in size, and is located approximately 1.5 miles southwest of the project site.

The LPD received 21,376 calls for service, 5,311 officer-initiated incidents, 1,995 vehicle and pedestrian checks, 1,373 traffic stops, 370 misdemeanor arrests, and 85 felony arrests, in the year

⁶ Tolan, Dworak, Division Chief. Lincoln Fire Department. Personal communication [email] with Jacob Byrne, Associate, Raney Planning and Management, May 8, 2017.

⁷ Tolan, Dworak, Division Chief. Lincoln Fire Department. Personal communication [email] with Jacob Byrne, Associate, Raney Planning and Management, May 8, 2017.

⁸ Tolan Dworak, Battalion Chief, Lincoln Fire Department. Personal communication with Nick Pappani, Vice President, Raney Planning and Management, January 11, 2017.

⁹ City of Lincoln. *Resolution Number 2005-135*. May 24, 2005.

2016. In addition, the LPD provides dispatch services for all 911 calls, for both police and fire, and processed 11,905 calls for 911 service in 2016.¹⁰

In 2016, the LPD had 27.5 employees, including 20.5 full-time, sworn police (including the positions of chief of police, sergeant and officer), and 7.5 non-sworn and civilian support staff (e.g., dispatchers, records staff, an administrative assistant, and a community service officer or CSO). Staffing levels have dropped over the last several years due to changes in the economy. LPD staff also receives support from a group of 43 volunteers, the Lincoln Police Volunteer Program, who provide assistance with administrative, patrol, and youth functions.¹¹ The City of Lincoln General Plan Policy PFS-8.11 calls for 1.8 law-enforcement officers per 1,000 people.

The LPD consists of three divisions: the Administrative Division, the Operations Division and the Support Division. The Administrative Division consists of the Chief of Police who is responsible for overseeing the entire operation of the LPD. The Operations division consists of two units: Patrol and Investigations, which are directly responsible for the enforcement of local and State laws, investigation of criminal activity, and ensuring the safety of the citizens of the City of Lincoln. The Support Services division is composed of Communications, Records, Citizen Volunteers, Animal Control, and Property and Evidence. The goal of the Support Services Division is to maintain the day-to-day functions of the LPD, manage the business aspect of the agency, data and record retention, and continually assess the needs of the department and City.¹²

Schools

Western Placer Unified School District (WPUSD) is the main provider of primary and secondary education in the City of Lincoln. In total, WPUSD operates 12 school sites, consisting of seven elementary schools (grades K-5), two middle schools (grades 6-8), one comprehensive high school (grades 9-12), one continuation high school, and one charter school with Horizon Instructional Systems. Current enrollment is approximately 9,116 kindergarten through grade 12 students.¹³

The project site is within the site boundaries for Carlin C. Coppin Elementary School (600 6th Street), Glen Edwards Middle School (204 L Street), and Lincoln High School (790 J Street) (Table 4.9-1). In Lincoln, students may also attend Phoenix High School (grades 9-12) at 870 J Street, Horizon Charter Schools (grades K-12) at 2800 Nicolaus Road, #100, and Community Christian Schools (grades Pre-K-8) at 1545 1st Street. According to Table 4.9-1, each school site within the District is operating under-capacity. Enrollment within the district is anticipated to grow with continued development within the City. The *School Facilities Master Plan*, adopted in 2014, anticipated that buildout of the City's General Plan could result in approximately 19,817 new

¹⁰ Lee, Doug, City of Lincoln Chief of Police. Personal Communication [email] with Jacob Byrne, Associate, Raney Planning & Management, Inc. April 25, 2017.

¹¹ Lee, Doug, City of Lincoln Chief of Police. Personal Communication [email] with Jacob Byrne, Associate, Raney Planning & Management, Inc. April 25, 2017.

¹² City of Lincoln. *Police Department Website*. Available at: http://lincolnca.gov/city-hall/departmentsdivisions/police-department/divisions-and-units. Accessed October 7, 2016.

¹³ California Department of Education. *Selected District Level Data for the year 2015-2016*. Available at: http://data1.cde.ca.gov/. Accessed October 28, 2016.

Table 4.9-1						
West	ern Placer Unified Sch	ools Serving the Proje	ct Site			
School	School Grades Enrollment Capacity					
Carlin C. Coppin	C. Coppin K-6 412 688					
Glen Edwards 7-8 892 1,202						
Lincoln High 9-12 1,832 2,128						
Source: Personal Communication with Michael Adell, Facilities Manager, and Nick Pappani, Vice President,						
Raney Planning and Management, Inc., January 9, 2017.						

students.¹⁴ However, the General Plan EIR concluded that policies in the General Plan were sufficient to ensure such growth is accommodated within WPUSD.¹⁵

Parks and Recreation Facilities

The City of Lincoln owns and operates the 16 public parks within the City. The park located closest to the project site is the 3.0-acre Palo Verde Park on Costa Lane. Palo Verde Park is located approximately 630 feet to the west of the project site and includes a playground, picnic area, and open turf area.

- 1. <u>Aitken Ranch Park</u> is a 7.0-acre park located on Dorrento Parkway. The park is currently in Phase 1 of completion and includes a play structure, large cement gathering area, and landscaping;
- 2. <u>Auburn Ravine Park</u> is a 10-acre park that features an off-leash dog park and multi-use trail system at Moore Road and Green Ravine Drive;
- 3. <u>Brown Park</u> is a 0.7-acre pocket park featuring a play structure, a grassy area, and a picnic area at McClain Drive and Lindbergh Drive;
- 4. <u>*Coyote Pond Park*</u> is a 24.5-acre park with a play structure, a picnic area, a pond, and a trail system on Old Kenmare Drive;
- 5. *Foskett Regional Park*, along Finney Way, consists of 42 acres and contains a lighted softball complex with four diamonds, a lighted soccer complex, concessions, a pedestrian and bike path, picnic areas, and children's play equipment;
- 6. *Joiner Park*, at Joiner Parkway and Nicolaus Road, is a 13-acre park with two football/soccer fields, one softball/baseball diamond, two play structures, and an approximately four acre vernal pool/intermittent wetland preserve;
- 7. <u>Machado Park</u> is a 4.7-acre park with two children's play structures and a picnic area located on Downing Circle;
- 8. <u>Markham Park</u> has a playground, a picnic and barbeque area, trail system, and nature interpretive facility on 4.7 acres on Toyon Circle at Cobblestone Drive;
- 9. <u>McBean Park</u> is a 24-acre park on McBean Park Drive. The park includes a playground, a skate park, basketball courts, horseshoe courts, a football/baseball stadium, a swimming pool, a barbeque area, a bandstand, restrooms, picnic areas, and open turf areas;
- 10. <u>*Palo Verde Park*</u> is a 3.0-acre park on Costa Lane and includes a playground, picnic area, and open turf area;

¹⁴ Western Placer Unified School District. *School Facilities Master Plan.* June 2014.

¹⁵ City of Lincoln. *General Plan Update Final Environmental Impact Report* [pg. 6-48]. February 2008.

- 11. <u>*Pete Demas Park*</u>, located on Stansbury Circle, is a 0.8-acre pocket park with a grassy area and picnic benches;
- 12. <u>Peter Singer Park</u> at Danbury Drive and Groveland Lane is five acres and includes baseball/softball fields, a soccer field, a play structure, picnic tables, and restrooms;
- 13. <u>Scheiber Park</u>, 4.5 acres at the corner of 3rd Street and Santa Clara Way, contains play structures and a picnic area;
- 14. <u>Sheffield Park</u> is a 1.5-acre park with play structures, swings, and picnic areas located on Sheffield Lane;
- 15. <u>*Twelve Bridges Park*</u> on Eastridge Drive is a five-acre park with a baseball/softball field, a soccer field, and a play structure; and
- 16. <u>Wilson Park</u> is adjacent to Twelve Bridges Middle School, at the corner of East Lincoln Parkway and Westview Drive. The park includes softball fields and a play structure on 6.5 acres.

Water Supply

The City of Lincoln provides municipal water service to commercial and residential customers in its jurisdiction, which includes the area within the city limits and the City's sphere of influence (SOI). Historically, the City has primarily been supplied by water treated and delivered by Placer County Water Agency (PCWA), which consists of PCWA surface water rights and entitlements as well as NID water rights and entitlements. The City also supplements surface water deliveries with groundwater during periods when treated surface water through PCWA's system is reduced, as well as to manage summer maximum day and peak hour water demands.

The City receives water supplies from the following six primary sources to meet water demand in the City service area, which includes the project site:

- 1) PCWA contract entitlement;
- 2) NID contract entitlement;
- 3) Groundwater rights;
- 4) Recycled water rights;
- 5) PCWA raw water entitlements; and
- 6) NID raw water entitlements.¹⁶

Placer County Water Agency

PCWA provides wholesale treated water to the City of Lincoln and provides untreated, treated, and irrigation water directly and indirectly to other wholesale and retail customers in Placer County. The City and the project site are located in Zone 1 of PCWA's Western Water System. The City has and will continue to rely on treated surface water from PCWA as a primary source of water.

¹⁶ City of Lincoln. *City of Lincoln 2015 Urban Water Management Plan.* June 2016.

PCWA Treated Water Supply Contract

In 2012, the City of Lincoln entered into an updated water supply contract with PCWA for delivery of treated surface water. The City's PCWA contract provisions require PCWA to deliver water up to the maximum day delivery amount to the City for use in the City's service area. The contract contemplates delivery of water supplies derived from PCWA's water rights and entitlements as the basis for the supplies coming to the City. Water from PCWA is treated at PCWA's Foothill Water Treatment Plant (WTP) and is then delivered to the City. The contract has a term of 20 years and a right of renewal for successive 20-year periods.

PCWA Water Treatment and Delivery Infrastructure

The Foothill WTP in Newcastle and the Sunset WTP in Rocklin treat water that is conveyed to the City of Lincoln. The Foothill WTP currently has capacity to treat 58 million gallons per day (mgd) (65,000 acre feet per year [AFY]) of raw water. The Sunset WTP has capacity to treat 8 mgd (8,960 AFY) of raw water.

In 2008, PCWA constructed the Ophir Road Pump Station that pumps water from the Auburn Tunnel to the Foothill WTP and into the Dutch Ravine Canal system which runs to the Lincoln and Rocklin areas. The Ophir Road Pipeline project was completed in 2014 and included the construction of the first segment of the 60-inch diameter transmission main for the future Ophir WTP. Work also included improvements at the Ophir Road Pump Station and at two locations on Dutch Ravine.

The water supply from the Foothill WTP is conveyed through a network of 200 miles of large diameter pipelines (24 through 42-inches in diameter). Treated water from the Sunset WTP is conveyed less than a mile to the City of Lincoln city limits via a 30-inch pipeline. The treated water from both WTPs is conveyed to a PCWA metering station adjacent to the City's five-million-gallon (mg) concrete storage tank at Conspiracy Point which is located at the southeast corner of the Twelve Bridges development, near the easterly edge of the City of Lincoln city limits. The majority of the PCWA water deliveries to the City of Lincoln are stored in City owned storage tanks and then passed into the City's distribution system by gravity and a series of pipelines ranging from 16- to 30-inch water pipelines. In addition to the five mg tank, the City operates two additional tanks (one at 1.5 mg and the second at 3 mg) for a total of 9.5 mg of potable water storage.¹⁷

Nevada Irrigation District

NID supplies irrigation, wholesale, and retail water to Nevada County and Placer County customers in its service area. Agricultural water use accounts for nearly 90 percent of the total demand on NID water supply. The remaining water supplied by NID is primarily delivered directly or through PCWA to single-family residential accounts.

¹⁷ City of Lincoln. *General Plan Update Final Environmental Impact Report*. February 2008.

In the City, NID is responsible for water service to outlying areas and to some sections of Lincoln where the City and NID boundaries overlap. In 2004, the City, PCWA and NID entered into temporary raw water sales agreement in which NID would supply raw water to PCWA treatment facilities for delivery to NID customers and developments that are planned to be incorporated into the City's service area upon annexation.

The amount of water available to the City from NID is estimated to be approximately 12,000 AFY, based on demand estimates.

Water Treatment and Delivery Infrastructure

NID operates seven treatment plants with a combined capacity of 41.73 mgd.¹⁸ As previously mentioned, NID supplies raw water to PCWA treatment facilities for delivery to NID customers in the City of Lincoln. The City and NID are collaboratively planning a water treatment plant that would serve the City of Lincoln and the City's sphere of influence. Along with NID water, the treatment plant could potentially serve PCWA water as well. The City and NID negotiated a Water Facilities/Planning Phase agreement in 2007 for a conceptual \$235 million water treatment facility. The benefit of the planned treatment facility would be to simplify the City's water deliverance system by allowing NID to provide water directly to the City, rather than providing water to the City through contracts with PCWA. The proposed plant was originally anticipated to begin operation in 2015; however, planning, design, and environmental review for the plant are on-going.¹⁹

NID's Lincoln Canal transports untreated raw water to the Lincoln area for primarily agricultural purposes. The canal enters the project site near the northeast corner, and then parallels Hungry Hollow Road before turning southwest, roughly bisecting the project site. The canal connects to a 10-inch underground pipeline at the western boundary of the site, which delivers water to the last customer on the Lincoln Canal. The portion of the Lincoln Canal that traverses through the site ranges between five and seven feet in width and has an average depth of 18 inches. There is also an 18-inch pipe at the end of Lincoln Canal that is used for overflow of an excessive amount of water caused either by storms or from customers shutting off upstream canal diversions. The pipe runs under Virginiatown Road and discharges southerly into Auburn Ravine.

Groundwater

In Western Placer County, the cities of Lincoln and Roseville, PCWA, and California American Water Company rely upon some groundwater to meet municipal and industrial demands. Because of the surface water supplies from PCWA and NID, the City of Lincoln has and will continue to limit groundwater to 10 percent of its overall supplies to meet emergency and peak demands during normal years. Service areas of the cities of Lincoln and Roseville, PCWA, and California American Water Company comprise a majority of the western portion of the North American Groundwater Subbasin.²⁰ The North American Groundwater Subbasin (Subbasin) is one of 18

¹⁸ Nevada Irrigation District. *About NID*. Available at http://nidwater.com/about-nid/. Accessed March 2017.

¹⁹ City of Lincoln. *City of Lincoln 2015 Urban Water Management Plan.* June 2016.

²⁰ City of Lincoln. *City of Lincoln 2015 Urban Water Management Plan.* June 2016.

subbasins that comprise the Sacramento Valley Groundwater Basin. The Subbasin lies within portions of Sutter, Placer, and Sacramento Counties. The Subbasin is identified by the California Department of Water Resources (DWR) in Bulletin 118-2003 as Basin No. 5-21.64. The approximate total storage of the North American Subbasin is 4.9 million acre-feet of water, across a surface land area of approximately 351,000 acres. This Subbasin is the primary groundwater source for the City.

In 2007, the City of Lincoln adopted the Western Placer County Groundwater Management Plan (WPCGMP). The WPCGMP is designed to assist the City of Roseville, the City of Lincoln, PCWA, and the California American Water Company (CAW) in an effort to maintain a safe, sustainable and high-quality groundwater resource within a zone of the North American Groundwater Subbasin. The objective of the WPCGMP is to maintain groundwater resources to meet backup, emergency, and peak demands without adversely affecting other groundwater uses within the WPCGMP area. Moreover, the purpose of the WPCGMP is to provide a framework to coordinate groundwater management activities through a set of basin management objectives and specific implementation actions.²¹

City of Lincoln Groundwater Resources

The City owns and operates five groundwater wells, which are used to supplement surface water supplies and manage operational pressures.²² The City currently maintains a goal of limiting groundwater use to 10 percent of its water supply (annual average) during normal years. However, pumping can vary substantially season to season, and may be higher during dry periods or during temporary infrastructure outages. The City is also able to manage groundwater pumping to optimize water conveyance within the City's existing pipeline system. In addition to the City of Lincoln pumping groundwater for municipal uses, groundwater is also pumped within the City's SOI to irrigate crops.²³

The current groundwater pumping system has a combined capacity of 8.5 mgd (9,528 AFY) or about 75 percent of the current maximum day demand, which is sufficient as an emergency irrigation supply for all but the hottest summer days. Increased use due to drought conditions requires wells to be taken off-line more frequently for service, which affects the total capacity of the system on any given day. The City is planning to install additional wells within its SOI to be able to, when necessary in back-up and emergencies, meet 75 percent of the average day demand at build out (approximately 34 mgd) with groundwater.²⁴

The WPCGMP would likely be the base technical document for groundwater supply in the City of Lincoln related to the 2014 Groundwater Sustainability legislation. The 2014 Sustainable Groundwater Management Act is composed of three component bills, Assembly Bill (AB) 1739, Senate Bill (SB) 1168, and SB 1319, which encourages local agency cooperation to manage

²¹ City of Lincoln. *City of Lincoln 2015 Urban Water Management Plan.* June 2016.

²² City of Lincoln. *City of Lincoln 2015 Urban Water Management Plan.* June 2016.

²³ City of Lincoln. City of Lincoln 2015 Urban Water Management Plan. June 2016.

²⁴ City of Lincoln. 2015 Urban Water Management Plan. June 2016.

groundwater resources within the State.²⁵ At this time, the City and its regional partners are determining the nature and jurisdictional reach of the groundwater sustainability actions but there is no reason to conclude that the sustainability plan would differ from the WPCGMP currently in use.

City of Lincoln Urban Water Management

The most current water supply planning document for the City of Lincoln is the 2015 Urban Water Management Plan (UWMP), which describes water supplies and projected citywide demands, including the SOI, for normal, single-dry, and multiple dry years through 2040. The following information is summarized from the UWMP.

Normal Year Water Supplies

The City has access to significant normal year supplies from PCWA and NID. Both PCWA and NID characterize the water supplies available to the City based upon the City's overall demand. PCWA has assessed the total Lincoln demand for PCWA water to be as high as 37,000 acre-feet at buildout. Although the Lincoln demand exceeds the demand in the PCWA service area within the City and its SOI, the City may expand water uses in existing areas, expand its SOI, or transport some PCWA water into the NID service area during certain instances in the future. Accordingly, it is plausible that PCWA could serve the City with 37,000 acre-feet of water in normal years in the future. The NID service area within the City could receive deliveries as high as 12,000 acrefeet of water to meet its buildout demands, which may also include replacing raw water deliveries in the City's SOI, if necessary. As such, NID is prepared to deliver as much as 12,000 acre-feet of water to the City in normal years. The City would also have access to recycled water supplies to meet demands throughout the City and the SOI. The recycled water supplies would be used to offset either raw or treated water deliveries - resulting in a reduced demand on those PCWA and NID water assets. Moreover, as demands increase, more water is used, and thus, more water is treated at the WWTRF which increases the supply of recycled water. The City also has access to groundwater through five wells, and would increase its wells, if necessary, but not beyond 10 percent of its water supply (annual average) during normal years. Such expansions would take the form of improvements to existing wells and the construction of new wells, such as the well included in the recently approved Independence at Lincoln Development Project. Table 4.9-2 shows both the potential water supplies available to the City in normal years as well as anticipated supply acquired from all supply sources.

²⁵ California Department of Water Resources. *Groundwater Information Center: Key Legislation*. Available at http://www.water.ca.gov/groundwater/groundwater_management/legislation.cfm. Accessed April 26, 2017.

Table 4.9-2								
Normal Year Water Supplies								
Supply Source (AFY)	2020	2025	2030	2035	2040			
PCWA Supply	13,239	15,421	18,335	21,187	25,533			
NID Supply	12,000	12,000	12,000	12,000	12,000			
Recycled Water Supply	3,300	3,748	4,381	5,015	6,063			
Groundwater	2,854	3,117	3,472	3,820	4,360			
Total Supply	31,393	34,286	38,188	42,022	47,955			
Anticipated Supply Acquired	11,192	12,710	14,859	17,007	20,561			
Source: City of Lincoln 2015 Urban Water Management Plan, June 2016.								

Single Dry Year Water Supplies

Although both PCWA and NID have robust direct diversion rights and water storage facilities, water shortages may still occur. As such, the City may be subject to reductions in supplies during a single dry year. PCWA has indicated that supplies could be reduced by 25 percent in dry years. NID, as demonstrated in 2015, may not reduce supplies at all during dry years. Even in dry years, indoor demands remain relatively constant. In addition, groundwater supplies may increase in order to augment surface supply deficits.²⁶ Under the dry year analysis presented in the City's 2015 UWMP, groundwater supplies are assumed to be kept at 10 percent of the total supply available reflecting reductions in surface water supply deliveries.²⁷ As such, Table 4.9-3 shows the potential single dry year reliability for the City of Lincoln's water supplies as well as anticipated supply acquired from all supply sources.

Table 4.9-3 Single Dry Year Water Supplies								
Supply Source (AFY)	2020	2025	2030	2035	2040			
PCWA Supply	9,929	11,566	13,751	15,890	19,150			
NID Supply	12,000	12,000	12,000	12,000	12,000			
Recycled Water Supply	3,300	3,748	4,381	5,015	6,063			
Groundwater	2,523	2,731	3,013	3,290	3,721			
Total Supply	27,752	30,045	33,146	36,195	40,934			
Anticipated Supply Acquired	11,751	13,346	15,453	17,517	21,178			
Source: City of Lincoln 2015 Urban Water Management Plan, June 2016.								

Multiple Dry Year Water Supplies

The City may be subject to reductions in supplies during multiple dry years. PCWA has indicated that supplies could be reduced by only five percent in multiple dry years. NID, as demonstrated in 2015, may not reduce supplies at all during dry years. Even in dry years, indoor demands remain relatively constant, and groundwater supplies may increase in order to augment surface supply

²⁶ City of Lincoln. *City of Lincoln 2015 Urban Water Management Plan.* June 2016.

²⁷ City of Lincoln. *City of Lincoln 2015 Urban Water Management Plan.* June 2016.

deficits.²⁸ However, for the analysis included in the City's 2015 UWMP, groundwater supplies have been kept at 10 percent of the normal year supply available.²⁹ Table 4.9-4 below shows the multiple dry year reliability for the City of Lincoln's water supplies as well as anticipated supply acquired from all supply sources. Note that the anticipated supply acquired is reduced in years two and three as end-users demands are reduced through conservation efforts.

Table 4.9-4									
Multi-Dry Year Water Supplies									
Supply Source									
(acre-feet per year)	2020	2025	2030	2035	2040				
First Multi-Dry Year									
PCWA Supply	12,577	14,650	17,418	20,128	24,456				
NID Supply	12,000	12,000	12,000	12,000	12,000				
Recycled Water Supply	3,300	3,748	4,381	5,015	6,063				
Groundwater	2,788	3,040	3,380	3,714,	4,232				
Total Supply	30,665	33,437	37,180	40,857	46,551				
Anticipated Supply Acquired	11,751	13,346	15,453	17,517	21,178				
Second Multi-Dry Year									
PCWA Supply	12,577	14,650	17,418	20,128	24,456				
NID Supply	12,000	12,000	12,000	12,000	12,000				
Recycled Water Supply	3,300	3,748	4,381	5,015	6,063				
Groundwater	2,788	3,040	3,380	3,714,	4,232				
Total Supply	30,665	33,437	37,180	40,857	46,551				
Anticipated Supply Acquired	10,576	12,011	13,908	15,766	19,060				
Third Multi-Dry Year									
PCWA Supply	12,577	14,650	17,418	20,128	24,456				
NID Supply	12,000	12,000	12,000	12,000	12,000				
Recycled Water Supply	3,300	3,748	4,381	5,015	6,063				
Groundwater	2,788	3,040	3,380	3,714,	4,232				
Total Supply	30,665	33,437	37,180	40,857	46,551				
Anticipated Supply Acquired	9,401	10,677	12,363	14,014	16,942				
Source: City of Lincoln 2015 Urban Water Management Plan, June 2016.									

Future Water Demand

The City of Lincoln's service area is growing due to many new areas identified for future annexation into the City's identified SOI. The expected growth would occur because of large development projects that would expand the city limits and more than triple the number of housing units by buildout. Several factors affect the development of future unit water demand, which in turn affect the forecasted water demand for future customers, such as State mandates and changes in the types of housing products being offered. The following factors are generally recognized to result in lower per units demand factors for future residential and non-residential customers.

²⁸ City of Lincoln. *City of Lincoln 2015 Urban Water Management Plan.* June 2016.

²⁹ City of Lincoln. *City of Lincoln 2015 Urban Water Management Plan.* June 2016.

Water Conservation Objectives

On November 10, 2009, Governor Arnold Schwarzenegger signed SBX7-7, which required each urban water supplier to reduce its per-capita water use by 2020, with a statewide goal of achieving a 20 percent reduction by 2020. The City has established a 2020 target of 193 gallons per capita per day (GPCD) in response to this requirement.³⁰ Achieving the City's 2020 conservation target would require the City to continue its ongoing conservation efforts.

Indoor Infrastructure Requirements

The 2016 Green Building Standards Code (CALGreen Code) builds off CALGreen Codes from 2010, and 2013 by requiring the installation of water-efficient indoor infrastructure for all new projects. The CALGreen Code applies to the planning, design, operation, construction, use and occupancy of every newly constructed building or structure. Expected future customers would satisfy the standards through the use of appliances and fixtures such as high-efficiency toilets, faucet aerators, on-demand water heaters, or other fixtures.

California Model Water Efficient Landscape Ordinance

The Water Conservation in Landscaping Act was enacted in 2006, requiring the Department of Water Resources (DWR) to update the Model Water Efficient Landscape Ordinance (MWELO). In 2009, the Office of Administrative Law (OAL) approved the updated MWELO, which required a retail water supplier or a county to adopt the provisions of the MWELO by January 1, 2010, or enact its own provisions equal to or more restrictive than the MWELO provisions.

In response to an executive order by the Governor dated April 1, 2015, DWR updated the MWELO again and the California Water Commission approved the revised MWELO on July 15, 2015. The changes include a reduction to 55 percent for the maximum amount of water that may be applied to a landscape for residential projects, which reduces the landscape area that can be planted with high water use plants, such a turf. The MWELO applies to new construction with a landscape area greater than 500 square feet (the prior MWELO applied to landscapes greater than 2,500 sf). For residential projects, the coverage of high water use plants is reduced to 25 percent of the landscaped area (down from 33 percent).

Water Demand Forecast Summary

When considering the various factors discussed above, coupled with a review of current customer use characteristics, the City has determined water demand projections within the City's service area that reflect the combination of continued conservation by existing customers and the addition of new customers over the planning horizon. Table 4.9-5 provides the summation of this analysis

³⁰ City of Lincoln. *City of Lincoln 2015 Urban Water Management Plan.* June 2016.

and the resulting expected citywide demands for each 5-year planning horizon. The demand projections presented in Table 4.9-5 include areas identified in the City's General Plan for future growth within the planning horizon. The Village 2 area, of which the project site is currently a part, is anticipated for development within the City's General Plan. Thus, development of the project area for residential uses was included in future water demand forecasts for the City.

Table 4.9-5						
	Projected C	Citywide W	ater Demai	nds		
Land-c	loce		Forecas	t Demand (A	AFY)	
Lanu-C	.1855	2020	2025	2030	2035	2040
	Existing	562	548	534	520	506
Multi-Family	Future	82	242	421	642	853
	Subtotal	644	790	955	1,162	1,358
	Existing	6,594	6,430	6,265	6,100	5,935
Single Family	Future	1,159	2,291	3,817	5,575	7,948
	Subtotal	7,754	8,720	10,081	11,675	13,883
	Existing	245	245	245	245	245
Commercial	Future	129	271	491	568	905
-	Subtotal	373	515	736	813	1,150
	Existing	15	15	15	15	15
Industrial	Future	2	2	2	2	382
	Subtotal	17	17	17	17	397
	Existing	59	59	59	59	59
Public	Future	60	79	159	159	176
	Subtotal	119	138	218	218	235
	Existing	694	694	694	694	694
Parks/Landscape	Future	472	566	673	729	789
<u>^</u>	Subtotal	1,166	1,260	1,367	1,423	1,483
	Subtotal	10,074	11,440	13,374	15,308	18,507
Unaccount	ted water (at 10%)	1,118	1,270	1,485	1,699	2,054
	Total	11,192	12,710	14,859	17,007	20,561
Source: City of Lincoln 2	015 Urban Water Man	agement Plan	June 2016.		•	

Supply/Demand Comparison

The *City of Lincoln 2015 Urban Water Management Plan* (UWMP) includes estimates of future City, including the SOI, water supply and demand for normal, single-dry, and multiple dry years through 2040.

Normal Year

In normal water years, the City would anticipate full availability of its surface supplies under the contract delivery obligations of PCWA and NID, as well as reliable raw water and non-potable water as available. The City would also use groundwater assets to balance its water supply portfolio as needed to meet peaking conditions. The City is in the unique position to only capture, pay for, and use the volume of water that it needs to meet its annual demands through its contract entitlements and groundwater pumping. In other words, although the wholesale agencies have

more supplies available, the City must only acquire what it needs to meet its demands – it has additional rights, as shown in Table 4.9-2 through Table 4.9-4 above. Therefore, in assessing long-term supply reliability, the total supplies equal the total demands. The resulting anticipated supplies and the forecasted demands are shown in Table 4.9-6. As demonstrated, the City projects adequate water supplies to meet its demands through 2040.

Table 4.9-6						
Supply and Demand Comparison (Normal Year)						
(acre-feet/year) 2020 2025 2030 2035 2040						
Supplies	11,192	12,710	14,859	17,007	20,561	
Demands	11,192	12,710	14,859	17,007	20,561	
Difference	0	0	0	0	0	
Source: City of Lincoln 2015 Ur	ban Water Manage	ement Plan, June	e 2016.			

Single-Dry Year

In a single dry year condition, the City's forecast water demands are expected to increase. The demand increase represents the generalized expansion of the landscape irrigation season due to limited rainfall – meaning customers begin demanding landscape irrigation supplies from the City earlier in the spring than during a normal year when rainfall would otherwise satisfy landscape water needs. Though the increase is dependent on actual conditions, it is represented by adjusting the normal year annual forecast demand value upward by five percent for each five-year increment to 2040. This adjustment reflects rudimentary relationships between, historic use variances and other conditions and is meant only to highlight the anticipated increase in demands for purposes of City planning.

As shown in Table 4.9-7, the City anticipates adequate water supplies in single dry-years through 2040. It should be noted, however, that the demand associated with industrial facilities remains constant through the dry year conditions. This provides a conservative estimate of the impacts of industrial demands on the City's water supply system.

Table 4.9-7 Supply and Demand Comparison (Single Dry-Year)						
(acre-feet/year) 2020 2025 2030 2035 2040						
Supplies	11,751	13,346	15,453	17,517	21,178	
Demands	11,751	13,346	15,453	17,517	21,178	
Difference	0	0	0	0	0	
Source: City of Lincoln 2015 Urb	an Water Manage	ement Plan, June	e 2016.			

Multiple Dry Years

For the analysis within the UWMP, the City has assessed a three-year series of dry conditions. Contrary to the conditions in a single dry year, the City anticipates reductions in available water supplies during the second and third years of multiple dry years, consistent with PCWA's and NID's water supply forecasting. However, the total water supply available may not vary across each of the three years as the City may be able to access groundwater supplies to augment the available surface water assets.³¹

Demand, however, will vary across this planning scenario, which is represented by setting the forecast demands for the first of three years equal to the demand used in the single dry year scenario. In the second year, the City would anticipate that its water shortage contingency plan (WSCP) would be triggered, resulting in a demand reduction for each year it is used. The rationale for triggering the WSCP is that water assets from the wholesale agencies may be reduced per those agencies water supply shortage provisions under their rights and assets as well as PG&E contracts. Thus, the City's WSCP Stage Two reduction target is assumed. Similarly, in the third year, the City would expect further reductions resulting from implementing further WSCP actions. For this third year, the City's Stage Four reduction target is assumed. However, the City assumes full deliveries would be maintained to its industrial facilities.

The resulting analysis is shown in Table 4.9-8. During each multiple dry year period projected in Table 4.9-8, the City anticipates adequate water supplies being available. During the first dry year, voluntary conservation is assumed. For the second and third dry years, it is assumed the City would have enacted its WSCP and be at Stage Two and Stage Four respectively.

		Fable 4.9-8					
Supply and Demand Comparison (Multiple Dry Years)							
(acre-feet/year)	2020	2025	2030	2035	2040		
Dry Year One							
Supplies	11,751	13,346	15,453	17,517	21,178		
Demands	11,751	13,346	15,453	17,517	21,178		
Difference	0	0	0	0	0		
	D	ry Year Two					
Supplies	10,576	12,011	13,908	15,766	19,060		
Demands	10,576	12,011	13,908	15,766	19,060		
Difference	0	0	0	0	0		
	Dr	y Year Three					
Supplies	9,401	10,677	12,363	14,014	16,942		
Demands	9,401	10,677	12,363	14,014	16,942		
Difference	0	0	0	0	0		

The City is in the unique position to only capture, pay for, and use the volume of water that it needs to meet its annual demands through its contract entitlements and groundwater pumping. In other words, although the wholesale agencies have more supplies available, the City must only acquire what it needs to meet its demands – it has additional rights, as shown in Table 4.9-2 through Table 4.9-4 above. Therefore, in assessing long-term supply reliability, the total supplies equal the total demands.

³¹ City of Lincoln. *City of Lincoln 2015 Urban Water Management Plan.* June 2016.

Project Site Water Infrastructure

As noted above, the Lincoln Canal bisects the site and conveys flows towards an existing 10-inch pipe that delivers water to the last customer on the Lincoln Canal. There is also an 18-inch pipe at the end of Lincoln Canal that is used for overflow discharges to Auburn Ravine. The pipe runs under Virginiatown Road and discharges southerly into Auburn Ravine.

There is an existing 18-inch City water main located within the right-of-way of Virginiatown Road. The water main was constructed as part of the adjacent Lincoln Highlands subdivision. Per City requirements, the water main was designed and constructed to serve 160 residential units on the 40-acre proposed project site and is stubbed at the southwestern corner of the project site.

Wastewater Collection and Treatment

Wastewater service would be provided to the project site by the City of Lincoln. The existing and future City wastewater infrastructure is described in detail below.

Wastewater Collection

The Lincoln Public Services Department, Wastewater Division, manages the lift stations and trunk sewer lines that convey wastewater to the WWTRF. An existing 10-inch City sewer main is located within Virginiatown Road, and is stubbed at the southwestern corner of the project site.

Wastewater Treatment

The Wastewater Division of the City of Lincoln Public Services Department provides the City of Lincoln with wastewater collection and treatment. The City's WWTRF is located at 1245 Fiddyment Road. The City maintains the collection system facilities that deliver sewage to the WWTRF, which provides secondary and tertiary treatment of municipal wastewater from all parts of the City. Wastewater is mainly collected via a gravity system; however, the system also includes several lift stations.

The WWTRF has expansion capacity up to 30 mgd for planned buildout and potential regional services. In 2016, an expansion to the WWTRF was completed, which increased the average dry weather flow (ADWF) capacity from 4.2 mgd to 5.9 mgd. Of the existing 5.9 mgd of ADWF capacity, approximately 4.7 mgd of ADWF is used.³² Plans are presently underway to further expand the WWTRF to a rated capacity of 7.2 mgd or 8.0 mgd. The next expansion is anticipated to be completed by 2021. The potential environmental effects resulting from the expansion of the WWTRF were previously analyzed in the *Midwestern Placer Regional Sewer Project EIR*.³³

³² Leftwich, Ray, City Engineer, City of Lincoln. Personal Communication [email] with Nick Pappani, Vice President, Raney Planning & Management, Inc. April 28, 2017.

³³ Stantec Consulting Services, Inc. *Midwestern Placer Regional Sewer Project EIR* [pg. 2.19]. February 2013.

Solid Waste

The City of Lincoln is the provider of solid waste collection and disposal throughout the City. Typically, solid waste is collected curbside and transported to the Western Regional Sanitary Landfill (WRSL), a 320-acre site operated by the Western Placer Waste Management Authority (WPWMA). The WPWMA is a regional agency established in 1978 through a Joint Exercise of Powers Agreement between the County of Placer and the cities of Roseville, Rocklin, and Lincoln to acquire, own, operate, and maintain a sanitary landfill site and all related improvements.

The WRSL is located at 3033 Fiddyment Road, west of SR 65, approximately 6.0 miles southwest of the project site, between the cities of Lincoln and Roseville. The WRSL contains a Material Recovery Facility (MRF), at which a variety of materials are recycled, including but not limited to wood and greenwaste for compost and woodchip processing, metal, plastic, glass, and paper. The WRSL is specified as a Class II/Class III non-hazardous site. The current space available, together with recovery efforts by the MRF, will delay the WRSL from reaching capacity.³⁴ The WPWMA owns and oversees the operations of the WRSL, MRF, compost facility, and Permanent Household Hazardous Waste Collection Facility (PHHWCF). A private firm, under contract to WPWMA, manages the day-to-day operation of the facilities.

Permit Limits and Site Constraints

The 320-acre WRSL is permitted to accept 1,900 tons per day and 624 vehicles per day; and currently receives an average of 638 tons per weekday and 86 vehicles per day. The WRSL has a permitted design capacity of 36,350,000 cubic yards and a remaining capacity of 25,386,466 cubic yards. Under current land use and development conditions, the WRSL has a permitted lifespan extending to 2058.³⁵

The MRF has a permitted processing limit of 1,750 tons per day and 1,014 vehicles per day. According to Placer County, for the period of January 1 through December 31, 2014, the average weekday tonnage received at the MRF was 1,116 tons and the average weekday vehicle count at the MRF was 588. The MRF expanded in 2007, increasing its processing capacity of municipal solid waste and construction and demolition debris to 2,200 tons per day.

Gas and Electricity Infrastructure

PG&E provides natural gas throughout Placer County and the City of Lincoln. PG&E is a San Francisco-based, private company, publicly regulated by the California Public Utilities Commission and provides electricity and natural gas to the majority of Northern California. PG&E has ample resources to meet a wide range of projected growth; however, additional improvements to the facilities may be required to meet future growth demands. PG&E would be the provider for gas and electricity for the project site.

³⁴ Western Placer Waste Management Authority. *About WPWMA*. Available at: http://www.wpwma.com/about-wpwma/. Accessed November 1, 2016.

³⁵ CalRecycle. http://www.calrecycle.ca.gov/SWFacilities/Directory/31-AA-0210/Detail/; accessed May 12, 2017.

Existing electrical lines are located along Virginiatown Road. Additionally, electrical lines are located opposite the project site, along Hungry Hollow Road.

4.9.3 REGULATORY CONTEXT

The following section includes a summary review of regulatory controls pertaining to public services and utilities, including federal, State, and local laws and ordinances.

Federal Regulations

The following are the federal environmental laws and policies relevant to public services and utilities.

Federal Clean Water Act

The federal Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into surface waters of the U.S., and sets water quality standards for all contaminants in surface waters. Water quality standards are intended to protect public health, enhance the quality of water, and serve the purposes of the CWA. The Act defines water quality standards as federal or state provisions or laws that designate the beneficial uses of water and establish water quality criteria to protect those designated uses.

Federal Water Pollution Control Act

The federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), otherwise known as the Clean Water Act (CWA), sets forth national goals that waters shall be "fishable, swimmable" waters (CWA Section 101 (a)(2)). To enforce the goals of the CWA, the EPA established the National Pollutant Discharge Elimination System (NPDES) program. NPDES is a national program for regulating and administering permits for discharges to receiving waters, including non-point sources. Under Section 1251 (b) of the CWA, Congress and the EPA must recognize and preserve the primary responsibilities and rights of states concerning the reduction of pollution in water resources.

Safe Drinking Water Act

The federal Safe Drinking Water Act (SDWA), which was enacted in 1974, gives the EPA the authority to set standards for contaminants in drinking water supplies. The EPA was required to establish primary regulations for the control of contaminants that affected public health and secondary regulations for compounds that affect the taste, odor, and aesthetics of drinking water. Accordingly, the EPA set a maximum contaminant level or treatment technique for each of the 83 contaminants in drinking water listed in the SDWA. Under the provisions of SDWA, the California Department of Public Health (DPH) has the primary enforcement responsibility. Title 22 of the California Code of Regulations establishes DPH authority, and stipulates State drinking water quality and monitoring standards.

State Regulations

The following are the State environmental laws and policies relevant to public services and utilities.

California Fire Code

The California Fire Code contains specialized regulations related to the construction, maintenance, and use of buildings in relation to fire and safety. The extent of the Code coverage pertains to fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions to aid fire responders, industrial processes, and other fire-safety requirements for new and existing buildings.

California Occupational Safety and Health Administration

In accordance with California Code of Regulations, Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment", the California Occupational Safety and Health Administration (Cal-OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hosing sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance and use of all fire-fighting and emergency medical equipment.

Proposition 1A/Senate Bill 50 (1A/SB 50)

Proposition 1A/SB 50 (Chapter 407, Statutes of 1998) is a school construction measure that authorizes the expenditure of State bonds totaling \$9.2 billion through 2002, primarily for modernization and rehabilitation of older school facilities and construction of new school facilities. \$2.5 billion is for higher education facilities and \$6.7 billion is for K-12 facilities.

Proposition 1A/SB 50 implemented significant fee reforms by amending the laws governing developer fees and school mitigation.

- Proposition 1A/SB 50 establishes the base (statutory) amount (indexed for inflation) of allowable developer fees at \$1.93 per square foot for residential construction and \$0.31 per square foot for commercial construction.
- Proposition 1A/SB 50 prohibits school districts, cities, and counties from imposing school impact mitigation fees or other requirements in excess of or in addition to those provided in the statute.

Proposition 1A/SB 50 prohibits local agencies from using the inadequacy of school facilities as a basis for denying or conditioning approvals of any "legislative or adjudicative act involving the planning, use, or development of real property." (Government Code 65996(b).) In addition, a local agency cannot require participation in a Mello-Roos district for school facilities; however, the statutory fee is reduced by the amount of any voluntary participation in a Mello-Roos district.

Satisfaction of the Proposition 1A/SB 50 statutory requirements by a developer is deemed to be "full and complete mitigation." The law identifies certain circumstances under which the statutory fee can be exceeded, including preparation and adoption of a "needs analysis," eligibility for State funding, and satisfaction of two of four requirements (after January 1, 2000) identified in the law including year-round enrollment. General obligation bond measure on the ballot over the last four years that received 50 percent plus one of the votes cast, 20 percent of the classes in portable classrooms, or specified outstanding debt.

Assuming a district qualifies for exceeding the statutory fee, the law establishes ultimate fee caps of 50 percent of costs where the State makes a 50 percent match, or 100 percent of the costs where the State match is unavailable. School district certification of payment of the applicable fee is required before a city or county can issue a building permit for the construction of development.

Quimby Act

California Government Code Section 66477, Subdivision Map Act, referred to as the Quimby Act, permits local jurisdictions to require the dedication of land and/or the payment of in-lieu fees solely for park and recreation purposes. The required dedication and/or fee are based upon the residential density, parkland cost, and other factors. Land dedication and fees collected pursuant to the Quimby Act may be used for acquisition, improvement, and expansion of park, playground, and recreational facilities or the development of public school grounds.

Urban Water Management Planning Act

In 1983, the California Legislature enacted the Urban Water Management Planning Act (Water Code Sections 10610 - 10656). The Act requires that every urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 acre-feet of water annually shall prepare and adopt an UWMP within a year of becoming an urban water supplier and update the plan at least once every five years. The Act specifies the content that is to be included in an UWMP, and states that urban water suppliers should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry-years. The Act also states that the management of urban water demands and the efficient use of water shall be actively pursued to protect both the people of the State and their water resources. The City of Lincoln approved its 2015 UWMP in 2016.

Sustainable Groundwater Management Act

The California Department of Water Resources (DWR) has developed a Strategic Plan for its Sustainable Groundwater Management (SGM) Program. DWR's SGM Program will implement the new and expanded responsibilities identified in the 2014 Sustainable Groundwater Management Act (SGMA), as amended in 2015. Some of these expanded responsibilities include: (1) developing regulations to revise groundwater basin boundaries; (2) adopting regulations for evaluating and implementing Groundwater Sustainability Plans (GSPs) and coordination agreements; (3) identifying basins subject to critical conditions of overdraft; (4) identifying water available for groundwater replenishment; and (5) publishing best management practices for the sustainable management of groundwater.

The City, along with regional partners, is in the process of planning compliance activities under SGMA. Once the regional Groundwater Management Program is developed, it will overlay the Western Placer Basin, and will encompass and/or supersede other local groundwater planning efforts. Thus, SGMA may alter the City's existing groundwater management activities envisioned in the Western Placer County Groundwater Management Plan (WPCGMP) and related efforts. The Sacramento Groundwater Authority, a Joint Powers Authority with a common interest in the North American Groundwater Subbasin, has established itself as a Groundwater Sustainability Agency (GSA). However, the role of the City of Lincoln related to this GSA has not yet been finalized. Eventually, under SGMA, agencies participating in the GSA will be required to develop a Groundwater Management Program that coordinates management among all stakeholders in the North American Groundwater Subbasin.

Senate Bill 610 and Senate Bill 221

In 2001, the California Legislature enacted two pieces of legislation relevant to environmental review focused on the water consumption associated with large development projects. SB 610 (Chapter 643, Statutes of 2001; Section 21151.9 of the Public Resources Code (PRC) and Section 10910 et seq. of the Water Code) requires the preparation of water supply assessments (WSAs) for large developments. Government Code section 66473.7(a)(1) requires an affirmative written verification of sufficient water supply. SB 221 is designed as a "fail-safe" mechanism to ensure that collaboration on finding the needed water supplies to serve a new large subdivision occurs early in the planning process.

As stated in CEQA Guidelines Section 15155, which reflects SB 610 requirements, any residential development exceeding 500 dwelling units is considered a "water-demand project" and is required to prepare a WSA. The proposed project includes 144 dwelling units, which is below the threshold established by SB 610. Thus, a WSA is not required to be prepared for the proposed project.

California Integrated Waste Management Act - Assembly Bill 939

To minimize the amount of solid waste that must be disposed of by transformation (i.e., recycling) and land disposal, the State Legislature passed the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties are required to divert 25 percent of all solid waste from landfill facilities by January 1, 1995, and 50 percent by January 1, 2000. Solid waste plans are required to explain how each city's AB 939 plan will be integrated within the respective county plan. The plans must promote (in order of priority) source reduction, recycling and composting, and environmentally safe transformation and land disposal. Cities and counties that do not meet this mandate are subject to \$10,000-per-day fines.

Senate Bill 1016

In 2007, SB 1016 amended portions of AB 939, which allows the California Integrated Waste Management Board (CIWMB) to use per capita disposal as an indicator in evaluating compliance with the requirements of AB 939. Jurisdictions track and report their per capita disposal rates to CalRecycle.

Local Regulations

The following are the local environmental laws and policies relevant to public services and utilities.

City of Lincoln General Plan

Chapter 6, General Plan Policy Consistency, identifies adopted General Plan policies that are relevant to the evaluation of public services and utilities and an evaluation of consistency with those policies. No inconsistencies with the General Plan policies are identified. However, while City staff has done its best to ascertain consistency, the Lincoln City Council makes the ultimate decision regarding consistency with the General Plan.

City of Lincoln General Plan Appendix B: Park Requirements

According to Appendix B of the Lincoln General Plan, Park Requirements, non-traditional park lands may be granted partial credit towards meeting the nine acre park land per 1,000 population standard if they provide some form of recreational value. Recreational value is defined as a measure of public accessibility and recreational improvements, which may include bike paths along creek-ways, vernal pools with walking, picnicking and interpretive signage, or other similar features of accessibility and improvement. A credit ratio range of between 5:1 and 10:1 may be given for these lands, only after the active (traditional) recreation needs of the community have been met. A credit ratio range of between 5:1 and 10:1 means that 1 acre of park credit may be granted towards meeting the park land requirement for every 5 to 10 acres of accepted nontraditional park land. The ability to receive credit, and the amount of credit given, will be determined by the City on a case-by-case basis dependent upon: recreational value; accessibility and potential benefit to the community of the land or improvements; and the benefit generated to the City as a whole. Park credit for non-traditional park lands may only be considered at the specific plan stage and not on an individual project by project basis. Credit shall only be granted where provisions are included to ensure that the credited lands or facilities remain at their intended credited use on a long-term basis.

City of Lincoln Public Facilities Element Fee Program: Nexus Study Update

In 2012, Goodwin Consulting Group published an update to the August 2006 nexus study of the Public Facilities Element Fee Program (hereafter referred to as the 2012 Nexus Study Update) to enable compliance with AB 1600 (also known as the Mitigation Fee Act) for the City of Lincoln. The intent of the nexus study update is to ensure that a rational nexus exists between future development in the City and (i) the use and need of the proposed infrastructure and capital facilities and (ii) the amount of the Public Facilities Element (PFE) Fee assigned to future development. The central purpose of the 2012 Nexus Study Update is to analyze and ensure that the relationship between the PFE Fee levied on land uses and the facilities cost per each unique land use remains reasonable for the City and its continued development, and reflects the actual cost of making necessary infrastructure and services improvements.

The 2012 Nexus Study Update provides extensive analysis pertaining to the fee methodologies that were utilized to calculate fee components, the demographic and land use assumptions that developed these calculations, and an overall summary of all infrastructure and capital facilities costs that would be included in the PFE Fee Program.

The City of Lincoln has applied a PFE Fee Program for all future growth within the 1988 SOI, and is designed to contain separate fee categories based on type of capital facility and infrastructure. The 2012 fees presented in the 2012 Nexus Study Update are the most recently adopted fees for development in Lincoln. The Update affects the proposed project because it is located within both the 1988 and present SOIs. Four residential land use types are assigned unique fees per unit within the PFE - very low density, low density, medium density, and high density. In addition, three classes of non-residential land uses are assigned unique fees per 1,000 square feet within the PFE - commercial, business and professional, and industrial. Funds provided from these fees, which the developer would provide prior to permitting, would be allocated to the specific infrastructure and service types to enable development of the plan area, subject to the requirements of the 2012 Nexus Study Update. PFE fees are applied to a number of categories including parks, police, fire, and solid waste services and infrastructure; roadway infrastructure, and utilities infrastructure for water supply, wastewater, reclaimed water, and drainage.

The City of Lincoln is currently in the process of updating its PFE Fee Program, which would influence all future payments of infrastructure and services. Once the updated PFE Fee Program is adopted, PFE fees would be applied citywide, including those areas that are planned or currently being constructed.

4.9.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology utilized to analyze and determine the proposed project's potential impacts related to public services and utilities.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines a significant impact would occur if the proposed project would result in the following:

Public Services

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:
 - Fire protection;
 - Police protection;
 - Schools;
 - Parks; or
 - Other public facilities.

Utilities

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater delivery, collection or treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;
- Result in a determination by the wastewater treatment provider which 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;
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs; and
- Comply with federal, state, and local statutes and regulations related to solid waste.

It should be noted that impacts related to storm drainage facilities are addressed in the Hydrology and Water Quality chapter of this EIR; therefore, these topics are not analyzed or discussed in this EIR chapter.

Method of Analysis

Determinations of the significance of the proposed project's impacts were made based on the project's modifications to existing or planned public services and utilities, and the ability of the existing public services and utilities to accommodate the proposed project, using the above significance criteria.

Public Services

The following analysis of provision of public services assumes that the project would increase the City of Lincoln's population by approximately up to 373 residents, based on the average household size of 2.59 person from the City of Lincoln General Plan EIR (144 proposed units x 2.59 persons per household = 373 persons). The impact analysis evaluates the ability of the LFD, LPD, WPUSD, and other services to serve the proposed project through a qualitative review of project characteristics, such as location, land uses, and access routes. The analysis also addresses whether the proposed project would require construction of additional facilities.

Water Supply

The City of Lincoln 2015 UWMP and the City of Lincoln General Plan were utilized to determine whether the project is consistent with the adopted goals and policies as well as to determine adequate water supply for the proposed project. The *Water Study* prepared for the proposed project

by Baker-Williams Engineering Group in October 2015 was utilized to determine whether adequate domestic and fire flow water supply exists for the proposed project.

Wastewater System

Impacts relating to wastewater demand were identified based on an evaluation of the City's existing wastewater treatment capacity infrastructure. The *Sewer Study* prepared for the proposed project by Baker-Williams Engineering Group in November 2015 presents an assessment of the impacts of the proposed project on the City's collection system infrastructure.

Solid Waste

The solid waste analysis of this chapter is based on solid waste calculations performed by Raney using industry generation rates.

Project Specific Impacts and Mitigation Measures

The following discussion of public services and utilities impacts is based on implementation of the proposed project in comparison to existing conditions and the standards of significance presented above.

4.9-1 Result in substantial adverse physical impacts associated with the provisions of new or physically altered fire protection services, and/or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services. Based on the analysis below, the impact is *less than significant*.

As described above, the project site is currently located within an unincorporated area of Placer County and within the Western Placer Fire CSA 28 Zone 76. Development of the proposed project includes the annexation of the 43.87-acre project site to the City of Lincoln and detachment of the project site from Western Placer Fire CSA 28 Zone 76, in order for the LFD to provide fire protection services.

The proposed project would result in the expansion of LFD's service area by approximately 43.87 acres, and based on the City of Lincoln's average household size of 2.59 people,³⁶ the project is expected to generate approximately 373 people from the development of the project. As indicated in Table 4.9-9, using 2012 PFE ratios, the proposed project would generate the need for approximately less than one new staff member and 431 square feet of station space.

³⁶ City of Lincoln. *City of Lincoln 2013-2021 Housing Element Policy Document* [pg. 9]. Adopted November 12, 2013.

	Fire Pr	Table 4.9-9 otection Require	ments	
Project	LFD Staff/1,000		Square	
Population	Residents	LFD Staff	Footage/Staff	Square Footage
373	1.26	0.47	917	431
Source: City of Linco	In Public Facilities El	lement Fee Nexus Stu	dy, February 9, 2012.	

Funding for fire protection facilities is derived in part from the City's General Fund, which is based primarily on property tax and sales tax revenues. As development of the proposed project is implemented there would be an increase in these revenues, which could be used to fund additional fire protection facilities. To address the project's proportionate share of fire facilities that have already been constructed and that would serve the project site, the proposed project would also be required pay the City's adopted fire impact fees prior to issuance of buildings permits.

The Twelve Bridges Specific Plan includes a planned fire station at the southeast corner of the intersection of Twelve Bridges Drive and Stonebridge Boulevard. Potential environmental impacts associated with construction of the new fire station were analyzed within the Twelve Bridges Specific Plan EIR and associated Addendum.³⁷ Operation of the fire station would help serve additional demand associated with future development, including the Lincoln Meadows project. As a result, the proposed project would not result in the need for new, or improvements to existing, fire protection facilities, construction of which could cause significant environmental impacts beyond those previously evaluated in the Twelve Bridges Specific Plan EIR; and a *less-than-significant* impact would occur.

<u>Mitigation Measure(s)</u> None required.

4.9-2 Result in substantial adverse physical impacts associated with the provisions of new or physically altered police protection facilities, and/or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for sheriff protection services. Based on the analysis below, the impact is *less than significant*.

Upon annexation, the proposed project would be located within the jurisdiction of and would be provided services by the LPD. As described above, the Lincoln Police Station, located at 770 7th Street, is located approximately 1.35 miles southwest of the project site.

The proposed project would increase the need for law enforcement by increasing the population within the area. Upon annexation, additional LPD staff time and equipment would be needed to patrol the project site and respond to emergency calls.

³⁷ City of Lincoln. *Resolution Number 2005-135*. May 24, 2005.

City General Plan Policy PFS-8.11 calls for 1.8 law-enforcement officers per 1,000 people.³⁸ Based on the City of Lincoln's average household size of 2.59 people, the project is expected to generate approximately 373 people from the development of the project. This analysis assumes the 2012 PFE ratios for personnel and facility space requirements at full buildout as follows: 1.87 officers and 0.4 non-sworn staff per 1,000 residents and 475 square feet per police department employee. Based on the PFE factors, the proposed project at full buildout would generate the demand for up to less than one new officer and less than one new staff person, as well as 403.75 square feet of office space for the LPD (see Table 4.9-10).

Table 4.9-10 Police Protection Requirements						
Project Population						
373 1.87 0.7 0.40 0.15 475 403.75					0	
Source: City of I	Lincoln Public Faci	lities Elemer	nt Fee Nexus St	udy, Feb	ruary 9, 2012.	

Funding for police protection facilities is derived from the City's General Fund, which is based primarily on property tax and sales tax revenues. As development of the proposed project is implemented there would be an increase in these revenues, which could be used to fund additional police protection facilities. To address the project's proportionate share of police facilities that have already been constructed and that would serve the project site, the proposed project would also pay the City's adopted police impact fees prior to issuance of building permits. As a result, the project would have a *less-than-significant* impact.

Mitigation Measure(s) None required.

4.9-3 Result in substantial adverse physical impacts associated with the provisions of new or physically altered school facilities, and/or the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for school facilities. Based on the analysis below, the impact is *less than significant*.

The WPUSD is the main provider of primary and secondary education in the City of Lincoln and operates a total of 12 school sites. The project site is within the site boundaries for Carlin C. Coppin Elementary School, Glen Edwards Middle School, and Lincoln High School. The proposed project includes the development of 144 single-family residential units and is expected to generate approximately 373 people. Based on the student generation rates provided by WPUSD, the proposed project is expected to generate 48 K-5 students, 12 6-8 students, and 17 9-12 students (see Table 4.9-11).

³⁸ City of Lincoln. *City of Lincoln General Plan*. March 2008.

Table 4.9-11 Western Placer Unified Schools District Available Capacity					
School	Available Capacity ¹	Student Generation Rate Per Unit	Students Generated from the Proposed Project		
Carlin C. Coppin Elementary School	276	0.328	48		
Glen Edwards Middle School	310	0.079	12		
Lincoln High School	296	0.118	17		
¹ Available capacity provided by WPUSD and is based on built capacity of the school minus current enrollment.					
Source: Michael Adell, Dir	rector of Facilities, Western	n Placer Unified School Dis	strict, January 2017.		

Based on the table above, the proposed project would generate a total of approximately 77 students. As shown in Table 4.9-11, the available capacity at Carlin C. Coppin Elementary School, Glen Edwards Middle School and Lincoln High School exceeds the number of new students that would be generated from the proposed project. As such, the existing schools in the area would have sufficient capacity to serve the students generated from the development of the proposed project. In addition, according to SB 50, the payment of the necessary school impact fees for the project would be full and satisfactory CEQA mitigation. Therefore, the proposed project would result in a *less-than-significant* impact related to school facilities.

<u>Mitigation Measure(s)</u> None required.

4.9-4 Result in substantial adverse physical impacts associated with the provisions of new parks or other public facilities, and/or the need for new or physically altered parks or other public facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for parks or other public facilities. Based on the analysis below, the impact is *less than significant*.

The City of Lincoln owns and operates 16 public parks within the City. According to General Plan Policy OSC-7.1, the park acreage standard for projects with a development agreement is nine acres per 1,000 population. The proposed project includes a development agreement and the development of 144 single-family residential units and is expected to generate approximately 373 people. As a result, the proposed project is required to provide 3.357 acres of park to serve the residents.

The proposed project would include a 7.67-acre Open Space lot, which would remain undeveloped with implementation of the proposed project. The Open Space lot would not constitute a traditional park; however, according to Appendix B of the City's General Plan, the City may consider non-traditional park lands for partial credit towards the nine acre per 1,000 resident requirement. If the City determines that the 7.67-acre Open Space lot does not qualify as parkland, or only partially meets the City's standard, the City of Lincoln will require the payment of in-lieu park fees.

The City's Municipal Code, Chapter 17.32, governs the assessment and use of in-lieu parkland fees. The Municipal Code requires that land, fees or combinations thereof must be used to provide parks or recreational facilities that would reasonably be assumed to serve the subdivision. Fees can also be used to expand or upgrade existing facilities. If the fees would be used to purchase and develop new parkland or park facilities, the potential impacts of the new facilities would be analyzed in a separate CEQA process. Accordingly, the payment of in-lieu park fees to the City is sufficient to meet the park needs for the development of the proposed project.³⁹

Therefore, with the payment of the necessary in-lieu park fees, the proposed project's impacts to park facilities would be *less than significant*.

Mitigation Measure(s) None required.

4.9-5 Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed. Based on the analysis below, the impact is *less than significant*.

The potential impacts resulting from the development of the proposed project relating to water supply, demand, and delivery are discussed below.

Water Supply and Demand

The proposed project would include the development of 144 single-family homes and two landscaping lots. The total development would require domestic and irrigation water supplied by the City of Lincoln. Based on the City's 2015 UWMP 2020 per capita water use target of 193 gcpd,⁴⁰ and the City of Lincoln's average resident per household rate of 2.59 residents/unit,⁴¹ the yearly demand of the proposed project is anticipated to be 80.63 AFY. If the proposed project were fully occupied in the near-term, the addition of approximately 81 AFY when added to 2015 citywide water demand, presented in the 2015 UWMP, of 7,628 AFY, would result in a total demand of approximately 7,700 AFY. A total demand of 7,700 AFY would be within the supply projections for year 2020, which is estimated to be 11,192 AFY.⁴² In addition, the 2015 UWMP accounted for water demand associated with buildout of the Village 2 area.⁴³ Because the project site is included within

³⁹ Paul Junker, Contract Planner, City of Lincoln. Personal communication with Nick Pappani, Vice President of Raney Planning & Management, Inc. January 19, 2017.

⁴⁰ City of Lincoln. *City of Lincoln 2015 Urban Water Management Plan.* June 2016.

⁴¹ City of Lincoln. 2013-2021 Housing Element Background Report. November 12, 2013.

⁴² City of Lincoln. *City of Lincoln 2015 Urban Water Management Plan.* June 2016.

⁴³ Alan Mitchell, City Engineering Consultant. Personal communication with Nick Pappani, Vice President of Raney Planning & Management, Inc. August 25, 2016.

the Village 2 area, the water demand associated with the proposed Lincoln Meadows project is accounted for in the buildout demand projections included in the City's 2015 UWMP.⁴⁴ Therefore, a sufficient amount of water supply would be available to serve the proposed project at buildout in addition to the City's other commitments.

Water Conveyance

City water would be conveyed to the project site through the existing 18-inch City water main located within the right-of-way of Virginiatown Road. As part of the project, the existing 18-inch water line, which is stubbed at the project site's southwestern boundary, would be extended east along Virginiatown Road to the southeastern corner of the site. From this 18-inch line, both a 12-inch water line and an 8-inch water line would be extended into the project site and within on-site roadways to convey water throughout the site to serve the proposed homes (see Figure 4.9-1).

According to the *Water Study* prepared specifically for the proposed project, the static water system would not fall below 40 pounds per square inch (PSI) and a fire flow demand of 1,500 gallons per minute (gpm) would not fall below 20 PSI. The existing system has the capability to supply 306 gpm without falling below the 40 PSI minimum standard set forth in the City of Lincoln Procedures Manual. As a result, the project is expected to have adequate supply and pressure to meet the estimated domestic water and fire flow demands.⁴⁵

Lincoln Canal

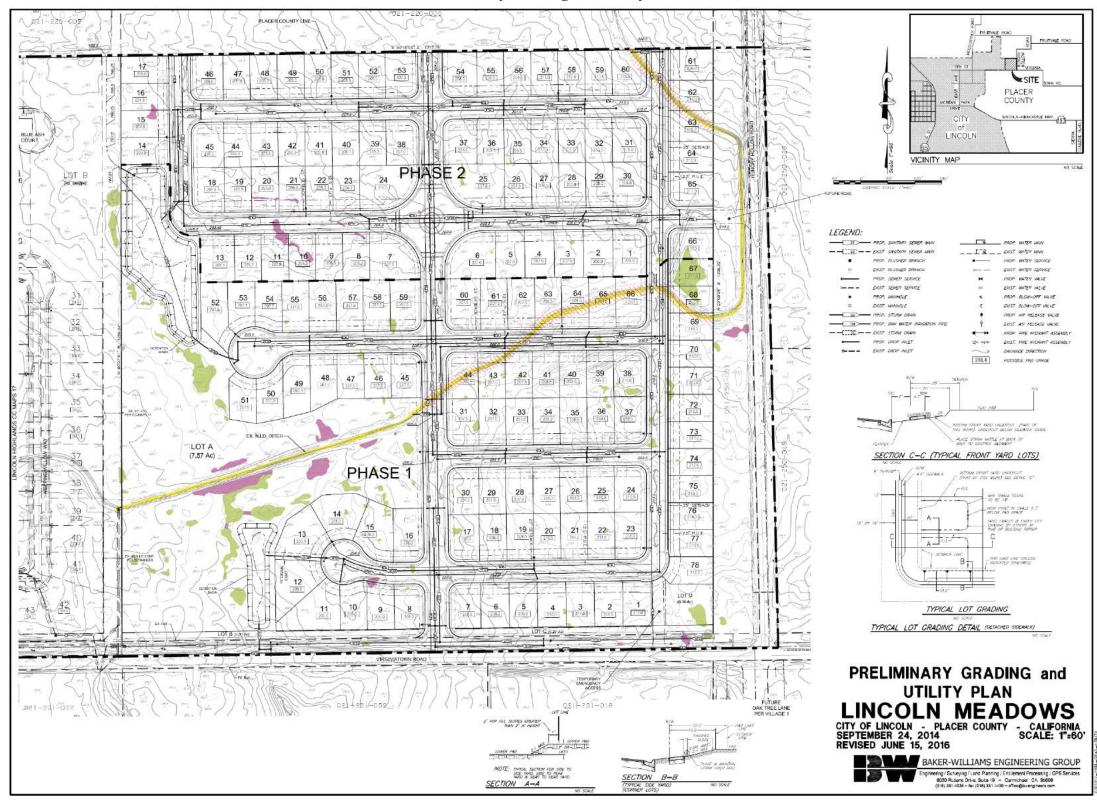
An existing portion of the NID's Lincoln Canal bisects the project site from east to west. The proposed project includes the realignment and undergrounding of the on-site portion of the Lincoln Canal. A 10-inch raw water line would be constructed within on-site roadways to reroute NID water from the northern boundary of the project site to an existing portion of the canal that would remain as part of the 7.67-acre open space lot. The water would then be transported to the western boundary of the project site to the existing 10-inch pipe. The 18-inch pipe that operates as a spill channel for the end of the Lincoln Canal before discharging flows into Auburn Ravine would not be affected by project improvements.

The alignment, plans and specifications of the partial on-site encasement of the Lincoln Canal requires NID approval.

⁴⁴ Mitchell, Alan, City Engineering Consultant. Personal Communication [email] with Nick Pappani, Vice President of Raney Planning & Management, Inc. August 25, 2016.

⁴⁵ Baker-Williams Engineering Group. *Water Study for Lincoln Meadows*. October, 2015.

Figure 4.9-1 Preliminary Grading and Utility Plan



Draft EIR Lincoln Meadows July 2017

Conclusion

Based on the above analysis, expansion of existing or construction of new water facilities, or new entitlements to serve the proposed development would not be necessary. Therefore, the proposed project would result in a *less-than-significant* impact related to water supply and water conveyance facilities.

<u>Mitigation Measure(s)</u> *None required.*

4.9-6 Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board or result in a determination by the wastewater treatment provider which 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. Based on the analysis below, the impact is *less than significant*.

The following project analysis discusses wastewater treatment and capacity separately.

Wastewater Treatment Capacity

Assuming 250 gpd for each of the proposed 144 single-family residences, the project would produce approximately 36,000 gallons (0.036 mgd) of wastewater. The WWTRF can treat dry weather flows of 5.9 mgd, and currently treats an average daily dry weather flow of approximately 4.7 mgd. The wastewater generated by the project could be accommodated within the available remaining capacity at the WWTRF. Further, the WWTRF is currently undergoing expansion and the proposed project will be required to pay sewer connection fees, which will contribute towards plant expansion costs.

Wastewater Conveyance

Wastewater would be conveyed from the project site through an existing 10-inch City sewer main located within Virginiatown Road. Similar to the water main, the sewer main was also constructed as part of the adjacent Lincoln Highlands subdivision. Per City requirements, the sewer main was designed and constructed to serve 160 residential units on the 40-acre project site.⁴⁶ The 10-inch main was stubbed with the water main at the southwestern corner of the project site. The proposed project would include the extension of the sewer main along the site's Virginiatown Road frontage to connect with the proposed underground on-site utilities (see Figure 4.9-1 above).

Conclusion

Based on the above discussions, the development of the proposed project would create an incremental increase in demand for wastewater disposal and the WWTRF would have sufficient capacity to serve the proposed project. In addition, the proposed project would

⁴⁶ Baker-Williams Engineering Group. *Sewer Study, Lincoln Meadows*. Revised February, 2016.

be required to pay the required sewer connection fees. Thus, the proposed project would result in a *less-than-significant* impact.

<u>Mitigation Measure(s)</u> *None required*.

4.9-7 Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs or fail to comply with federal, State, and local statutes and regulations related to solid waste. Based on the analysis below, the impact is *less than significant*.

Solid waste collected in the City of Lincoln is delivered to the WPWMA MRF where waste is processed, recyclables are recovered, and residuals are disposed. The proposed project would generate solid waste associated with construction activities as well as from project operations. Construction debris would be disposed of in accordance with applicable federal, State, and local regulations and standards. Solid waste collection services would be provided by the City Solid Waste Division.

As described above, the 320-acre WRSL has a remaining capacity of 25,386,466 cubic yards, and has a permitted lifespan extending to 2058.⁴⁷ The MRF has a permitted processing limit of 1,750 tons per day and 1,014 vehicles per day. The average weekday tonnage received at the MRF for 2014 was 1,116 tons, and in 2007 the MRF was expanded to increase its processing capacity of municipal solid waste and construction and demolition debris to 2,200 tons per day.⁴⁸

The proposed project consists of the development of 144 single-family homes, which would generate debris during construction activities and could create a short-term impact on solid waste disposal. According to the report prepared for the EPA, titled *Construction of Building-Related Construction and Demolition Debris in the United States*, residential construction debris has an estimated generation rate of 4.38 pounds per square foot (lbs/sf).⁴⁹ Based on this generation rate and the approximately 1,352,664 sf of construction area, the project is estimated to generate approximately 5,924,668 lbs of debris.

During operation of the project, the future residents would produce solid waste that would be collected by the City and transferred to the WRSL. Based on the Statewide average waste generation rate of 4.5 pounds per person per day, provided by CalRecycle, and 373 residents, the project would be expected to produce approximately 1,678.5 pounds (0.83925 tons) of solid waste annually. Given that the average annual capacity for throughput of the landfill is approximately 400,000 tons more than the average annual throughput, it is reasonable to conclude that the landfill has sufficient permitted throughput

⁴⁷ Placer County Department of Facility Services, Environmental Engineering Division (Solid Waste). *EIR Guidance Document*. July 2014.

⁴⁸ *Ibid*.

⁴⁹ United States Environmental Protection Agency Municipal and Industrial Solid Waste Division Office of Solid Waste. *Construction of Building-Related Construction and Demolition Debris in the United States*. June 1998.

capacity to accommodate the project's solid waste disposal needs in compliance with all applicable laws based on the calculated residential waste generation rate.

Solid waste collection services for the City are funded through an enterprise fund. Costs for operation services (containers, bins, trucks, loaders, and street sweepers) are funded by various fees and charges collected by the City through its utility billing for solid waste collection. As development occurs in the service area, revenue is generated to finance the expansion of operational services through fees generated by new utility customers. All new development must participate in the funding of needed facilities and equipment based on adopted program standards. These costs are spread over new development based on an equivalent dwelling unit factor such that capital facilities costs are equally borne by residential and nonresidential development.

Thus, solid waste generated from the construction and operation of the proposed project would not exceed the permitted capacity of the WRSL and MRF; as a result, impacts related to increased demand for solid waste disposal services would be *less than significant*.

Mitigation Measure(s) None required.

4.9-8 Would the project have sufficient gas and electricity facilities. Based on the analysis below, the impact is *less than significant*.

Development of the proposed project would increase demand for electricity and natural gas services in order to serve the 144 proposed residences. According to the CalEEMod results for the proposed project, at full buildout, the project could be expected to result in an electricity demand of 1,044,700 kilowatt-hours (kWh) per year or 1.04 gigawatt-hours (GWh) per year. According to the California Energy Consumption Data Management System, in 2015, Placer County reported total electricity consumption for residential uses of 1,382.36 million kWh (GWh).⁵⁰ Therefore, the proposed project would result in a 0.075 percent increase in the current electricity consumption for Placer County. In addition, according to the CalEEMod results for the proposed project, at full buildout, the project could be expected to result in consumption of natural gas of approximately 34,248.4 therms per year. According to the California Energy Consumption Data Management System, in 2015, Placer County reported total gas consumption for residential uses of 53.36 million therms.⁵¹ Therefore, the proposed project would result in consumption for residential uses of 53.36 million therms.⁵¹ Therefore, the proposed project would result in a minor 0.064 percent increase in the current gas consumption for Placer County.

Considering the above, operation of the proposed project would result in only a minor increase in gas and electricity consumption. Furthermore, the project applicant would be responsible for funding the installation of any necessary on-site gas and electricity

⁵⁰ California Energy Consumption Data Management System. *Electricity Consumption by County*. Available at: http://ecdms.energy.ca.gov/elecbycounty.aspx. Accessed on December 29, 2016.

⁵¹ California Energy Consumption Data Management System. *Gas Consumption by County*. Available at: http://ecdms.energy.ca.gov/gasbycounty.aspx. Accessed on December 29, 2016.

infrastructure for the project; such infrastructure would be installed in coordination with PG&E's planning staff. As such, the proposed project would have a *less-than-significant* impact to gas and electricity facilities.

Mitigation Measure(s) None required.

Cumulative Impacts and Mitigation Measures

The following discussion of impacts is based on the implementation of the proposed project in combination with other proposed and pending projects in the City's Planning Area. Other proposed and pending projects in the region under the cumulative context would include buildout of the City's General Plan, as well as development of the most recent planned land uses within the vicinity of the project area.

4.9-9 Increase in demand for additional public services and utilities as a result of the proposed project and other projects proposed in the City of Lincoln area. Based on the analysis below, the impact is *less than cumulatively considerable*.

Implementation of the proposed project would contribute to an increased demand for public services and utilities in the City of Lincoln and the region.

Fire and Police Protection Services

The City of Lincoln's General Plan EIR concluded that buildout of the City would increase the demand on fire and police protection services, which would result in the need for new or physically expanded facilities. Thus, buildout of the City was determined to result in a significant and unavoidable impact related to fire and police protection services. As the proposed project is within the Village 2 area of the Lincoln General Plan, development has been anticipated for the Lincoln Meadows site. In addition, the proposed project would comply with all applicable City goals and policies. Development of the proposed project would increase the demand for fire protection services and police protection services within the City; however, the proposed project would be subject to the required police and fire service development fees. In addition, the project's incremental demand for new fire protection facilities can be addressed by the planned fire station within the Twelve Bridges Specific Plan. The fire impact fees collected by the project would represent the project's fair share contribution toward developing this planned station. Similar to the proposed project, other future development projects would be addressed and mitigated on a projectby-project basis. Therefore, the proposed project in combination with future buildout in the City of Lincoln would not result in a significant cumulative impact related to fire and police protection services.

School Capacity

Cumulative buildout within the City and surrounding area could result in overcrowding at schools in the area. However, each individual development would be required to pay SB

50 school impact fees, similar to the proposed project, which would contribute to the facilitation of school expansions in order to serve the needs of the area. The City's General Plan EIR concluded that the City's General Plan, established funding sources, and mitigation measures included in the General Plan EIR, would be sufficient to reduce potential impacts of buildout on school facilities to a less than significant level. Therefore, the proposed project in combination with future buildout in Placer County would not result in a significant cumulative impact related to the need for new, or improvements to existing, school facilities.

Parks and Recreation

Cumulative buildout within the City and surrounding area would increase the demand for park facilities in the area, and the General Plan EIR determined that buildout of the City would result in significant and unavoidable impacts related to the development of new recreation facilities. However, the General Plan EIR further concluded that buildout of the General Plan would result in a less-than-significant impact related to the deterioration of existing park and recreation facilities. Each individual development within the City would be required to supply park land or pay the required in-lieu fees, which would be used for the development of new parks or the maintenance of existing parks. The project provides 7.95 acres of open space and will pay in-lieu park fees to ensure that the project's incremental contribution to this impact would be less than cumulatively considerable.

Water Supply

The City of Lincoln 2015 UWMP analyzed the total water supply sources available to the City with the total, projected water use, in five-year increments, for three water supply scenarios through year 2040: (1) a normal water year, (2) a single dry year, and (3) multiple dry years. As stated in Impact 4.9-5 the City of Lincoln anticipates adequate water supplies being available in multiple dry years (as shown in Table 4.9-9 through Table 4.9-11 above). During the first dry year voluntary conservation is assumed, and during the second and third dry years, the City anticipates to have enacted its water shortage contingency plan (WSCP) and be at Stage 2 and Stage 4, respectively. The proposed project's incremental demand would be 80.63 AFY, which can be accommodated by the City's entitled water supply when considered with cumulative development of the City. Therefore, the proposed project in combination with future buildout in the City of Lincoln would not result in a significant cumulative impact related to water supply during multiple dry years.

Wastewater

Buildout of the Lincoln General Plan, which includes the project site, would increase wastewater generation, requiring additional conveyance to the WWTRF for treatment and additional capacity at the WWTRF. The City's General Plan EIR concluded that construction of additional capacity at the WWTRF would constitute a significant and unavoidable impact of buildout of the General Plan. However, subsequent to certification of the GP EIR, the WWTRF has undergone expansion resulting in capacity sufficient to serve existing City-wide demand plus the project, with a remaining surplus capacity. In

addition, the proposed project, as well as all future developments, would be required to pay connection fees contributing to the future expansion of the treatment plant and any other wastewater facilities. Therefore, the proposed project's incremental increase in wastewater treatment demand would be within the WWTRF's current capacity, and future expansion of the WWTRF to meet buildout demands of the City, is planned for and development fees would contribute to such expansion costs.

Solid Waste

Waste generated by new residential, commercial, and industrial areas would need to be diverted at the existing MRF and ultimately disposed of at the WRSL. Although the proposed project includes a General Plan Amendment to remove the project site from the Village 2 designation, the site is planned for development in the City of Lincoln General Plan. Therefore, the solid waste generated from the proposed project has been anticipated in the City of Lincoln General Plan. The City of Lincoln General Plan Policies PFS-5.2, 5.9, 5.10, 5.11, and ED-1.2, solid waste capacity exists for buildout of the General Plan. The City's General Plan EIR found that such policies, and the mitigation measures included in the General Plan EIR, would be sufficient to ensure that buildout of the City would result in a less-than-significant impact related to solid waste.

Gas and Electric

Gas and electric services are provided on-demand, and service providers expand their distribution systems as needed to accommodate growth. Cumulative projects would increase demand for these services, but would be accommodated by PG&E. Therefore, the proposed project's incremental contribution to cumulative demands on gas and electric services would be less than cumulatively considerable.

Conclusion

The ultimate cumulative buildout in the City could impact fire and police protection services, school and park facilities, water supplies, wastewater treatment and conveyance, and gas and electric facilities. However, as discussed above, the proposed project's contribution to cumulative public services and utilities impacts would be considered *less than cumulatively considerable*.

<u>Mitigation Measure(s)</u> *None required.* 4.10 TRANSPORTATION AND CIRCULATION

4.10 TRANSPORTATION AND CIRCULATION

4.10.1 INTRODUCTION

The Transportation and Circulation chapter of the EIR documents the existing transportation and circulation conditions of the surrounding transportation system and analyzes proposed project impacts on various travel modes. The analysis includes consideration of roadway, pedestrian, bicycle, transit, emergency vehicle, and construction components of the overall transportation system under a number of scenarios. Information presented in this chapter of the EIR is based on the technical analysis prepared by Fehr & Peers Transportation Consultants (Fehr & Peers) in September 2016. All technical calculations and details are provided in Appendix O of this EIR.

4.10.2 EXISTING ENVIRONMENTAL SETTING

The following section describes the physical and operational characteristics of the transportation system within the project area, including the surrounding roadway system, common traffic analysis terms, existing traffic volumes and operations, transit system, and pedestrian and bicycle facilities.

Study Facilities

The following roadways provide primary circulation within the City of Lincoln and the vicinity of the proposed project.

- *State Route (SR) 65* is a north-south State highway that extends from Interstate 80 (I-80) in the City of Roseville to SR 70 in Olivehurst. SR 65 is a limited-access, four-lane highway with grade-separated interchanges at Ferrari Ranch Road extending southward. North of Ferrari Ranch Road, all intersections are at grade. SR 65 has a posted speed limit of 65 miles per hour (mph). The section of SR 65 between Lincoln Boulevard and Riosa Road is known as the Lincoln Bypass. The Lincoln Bypass opened in 2012 to facilitate travel between South Placer County and Yuba County and to reduce through traffic on surface streets in the City of Lincoln. The former SR 65 alignment through downtown Lincoln is now called Lincoln Boulevard.
- *State Route (SR) 193* is an east-west State highway that extends from Lincoln Boulevard in the City of Lincoln to Newcastle and beyond. SR 193 through the project study area is a rural two-lane arterial road that was known as McBean Park Drive before the portion within the City of Lincoln was relinquished to the City in 2011. SR 193 has a posted speed limit of 35 mph west of Ferrari Ranch Road , increasing to 55 mph east of Ferrari Ranch Road. There are passing zones east of Oak Tree Lane.

• *Lincoln Boulevard* extends northerly from SR 65 through downtown Lincoln, continuing north through Sheridan before connecting back to SR 65. Lincoln Boulevard is a fourlane arterial between SR 65 and Ferrari Ranch Road and merges to a two-lane arterial north of Ferrari Ranch Road. Lincoln Boulevard has a posted speed limit of 45 mph, reducing to 35 mph through downtown Lincoln. Passing is not permitted.

Study intersections and roadways were selected for analysis based on the proposed project's expected travel characteristics (i.e., project location and amount of project trips), as well as facilities susceptible to being affected by the project. The following 15 intersections, five roadway segments, and four highway segments were selected for analysis. Figure 4.10-1 displays the study intersections included in the transportation analysis, which encompass the "study area" for the project's transportation and circulation analysis.

Intersections

- 1. SR 65 southbound (SB) Ramps/Lincoln Boulevard
- 2. SR 65 northbound (NB) Ramps/Lincoln Boulevard
- 3. Ferrari Ranch Road/Lincoln Boulevard
- 4. McBean Park Drive/Lincoln Boulevard
- 5. 7th Street/Lincoln Boulevard
- 6. SR 193/East Avenue
- 7. 7th Street/East Avenue
- 8. 12th Street/East Avenue
- 9. Virginiatown Road/McCourtney Road
- 10. Virginiatown Road/Hungry Hollow Road
- 11. SR 193/Sierra College Boulevard
- 12. Virginiatown Road/Fowler Road (South)
- 13. Virginiatown Road/Fowler Road (North)
- 14. Virginiatown Road/Project Driveway (Project Only)
- 15. Hungry Hollow Road/Project Driveway (Project Only)

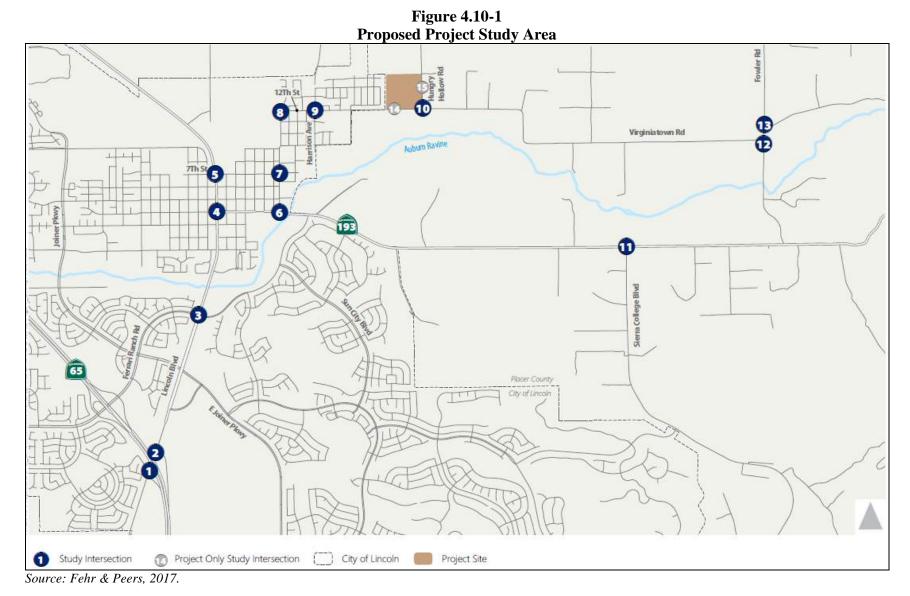
Roadways

- 1. Lincoln Boulevard between Joiner Parkway and SR 65 Interchange
- 2. SR 193 between Lincoln Boulevard and East Avenue
- 3. SR 193 between Sierra College Boulevard and Fowler Road
- 4. Sierra College Boulevard between SR 193 and Taylor Road
- 5. Hungry Hollow Road north of Virginiatown Road

Freeways

- 1. SR 65 NB between Twelve Bridges Drive and Lincoln Boulevard
- 2. SR 65 SB between Twelve Bridges Drive and Lincoln Boulevard
- 3. SR 65 NB between Sunset Boulevard and Twelve Bridges Drive
- 4. SR 65 SB between Sunset Boulevard and Twelve Bridges Drive

DRAFT EIR LINCOLN MEADOWS JULY 2017



Common Traffic Analysis Terms

The proposed project traffic study analyzes traffic operations on roadways facilities using the concept of Level of Service (LOS). Roadway LOS is a qualitative measure of traffic operating conditions, whereby a letter grade, from A to F is assigned, based on quantitative measurements of delay per vehicle defined by the *Highway Capacity Manual* (HCM). The grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving. In general, LOS A represents free-flow conditions, and LOS F represents severe delay under stop-and-go conditions.

Table 4.10-1 summarizes the relationship between delay and LOS for signalized and unsignalized intersections. The delay ranges for unsignalized intersections are lower than for signalized intersections as drivers anticipate lower delay at unsignalized intersections.

	Table 4.10-1 Intersection LOS Criteria					
		Average Control Delay (second per vehicle)				
LOS	Description	Signalized Intersections	Unsignalized Intersections			
А	Operations with very low delay occurring with favorable traffic signal progression and/or short cycle lengths.	≤ 10	≤ 10			
В	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10 to 20	> 10 to 15			
С	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20 to 35	> 15 to 25			
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high volume to capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35 to 55	> 25 to 35			
Е	Operations with high delay values indicating poor progression, and long cycle lengths. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	> 55 to 80	> 35 to 50			
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80	> 50			
Source: Tr	ansportation Research Board, 2010.					

In addition, Table 4.10-1 illustrates the average delay range associated with each LOS category for unsignalized intersections. For side-street control intersections, the delay and LOS is reported for the entire intersection and the minor street movement with the greatest delay. Table 4.10-1 shows that for a given LOS, a higher threshold of delay is provided at signalized intersections versus unsignalized intersections, which is based on driver expectation of having to wait less time at a stop sign versus a traffic signal.

Table 4.10-2 illustrates the range of Percent Time Spent Following (PTSF) and average speed for each LOS category for two-lane undivided highways. As shown, LOS F operations occur when certain traffic volume thresholds (either a single direction or both directions) are exceeded. The analysis methodology reports a LOS for each direction of travel. Results are then reported for the worst-case travel direction.

Table 4.10-2 LOS Criteria – Two-Lane Undivided State Highways					
	Two-Lane Undi	vided Highways			
LOS	Average Travel Speed	Percent Time Following			
А	> 55 mph	<u><</u> 35%			
В	> 50.0 to 55.0 mph	> 35% to 50%			
С	> 45.0 to 50.0 mph	> 50% to 65%			
D	> 40.0 to 45.0 mph	> 65% to 80%			
Е	$\leq 40 \text{ mph}$	> 80%			
F	Traffic flow exceeds 1,700 pcph in on directions	Traffic flow exceeds 1,700 pcph in one direction or 3,200 pcph in two			

Notes:

pcph = passenger cars per hour

Study segments of SR 193 are Class I two-lane highway facilities. For Class I facilities, the ATS and PTSF are used to determine LOS. Highway class definitions based on descriptions from Transportation Research Board 2010.

Source: Transportation Research Board 2010

Table 4.10-3 illustrates the average daily traffic (ADT) range associated with each LOS grade based on the Placer County General Plan.

Table 4.10-3 LOS Criteria – Placer County Roadways					
	Maximum Traffic Volume (Both Directions) to Achieve (ADT)				
Facility Type	Applicable Study Roadway	LOS B	LOS C	LOS D	LOS E
Two-Lane, Low-Access Control Arterial	 SR 193 between Sierra College Blvd & Fowler Rd SR 193 between East Ave & Lincoln Blvd Sierra College Blvd between SR 193 & Taylor Rd 	10,500	12,000	13,740	15,000
Four-Lane, Moderate- Access Control Arterial	Lincoln Blvd between Joiner Pkwy & SR 65 Interchange	25,200	28,800	32,400	36,000
Source: Placer County General I	Plan, 2013				

Existing Facilities and Operations

The existing operations at the study facilities are described in further detail below. The analysis evaluated the traffic conditions during the following time periods:

- Weekday AM Peak Hour the consecutive 60-minute period that has the greatest traffic volume within the 7:00 AM to 9:00 AM peak period.
- Weekday PM Peak Hour the consecutive 60-minute period that has the greatest traffic volume within the 4:00 PM to 6:00 PM peak period.

The peak hour intersection counts were collected between September and December 2015. The roadway counts were collected over a consecutive 24-hour period on November 12, 2015. Weather conditions during collection of the intersection and roadway counts were sunny and dry, and schools were in session.

Figure 4.10-2 and Figure 4.10-3 display the existing lane configurations and turning movement volumes at the study intersections for the AM and PM peak hours.

Intersections

Existing traffic operations were analyzed at the 13 existing study intersections for the two study hours. Table 4.10-4 displays the delay and LOS results under Existing Conditions (see Appendix O for technical calculations). The key conclusions regarding peak hour intersection operations under Existing Conditions include the following:

- <u>7th Street/East Avenue</u> operations at this unsignalized intersection are at LOS E during the AM peak hour due to heavy traffic volume on the southbound approach generated by housing developments to the north and east. Operations are at LOS C during the PM peak hour. Operations are currently unacceptable during the AM peak hour based on the City of Lincoln General Plan Policy T-2.3; however, a signal warrant is not met.
- <u>Downtown Lincoln Intersections</u> some intersections along McBean Park Drive, west of East Avenue, and along Lincoln Boulevard, between 1st Street and 7th Street, operate at LOS D or LOS E. These intersections operate acceptably as identified by Policy T-2.3 of the City of Lincoln General Plan, which excludes select intersections in downtown Lincoln from the City's LOS C standard (see the Regulatory Context section of this chapter for a list of relevant General Plan traffic policies).
- <u>SR 193/Sierra College Boulevard</u> operates at LOS D during the PM peak hour. Placer County designates a standard of LOS C on rural roadways, except within one-half mile of State highways where the standard shall be LOS D. Because SR 193 is a State highway, the LOS D standard applies and the intersection operates acceptably during the PM peak hour based on Placer County General Plan Policy 3.A.7.
- All other intersections operate at LOS C or better.

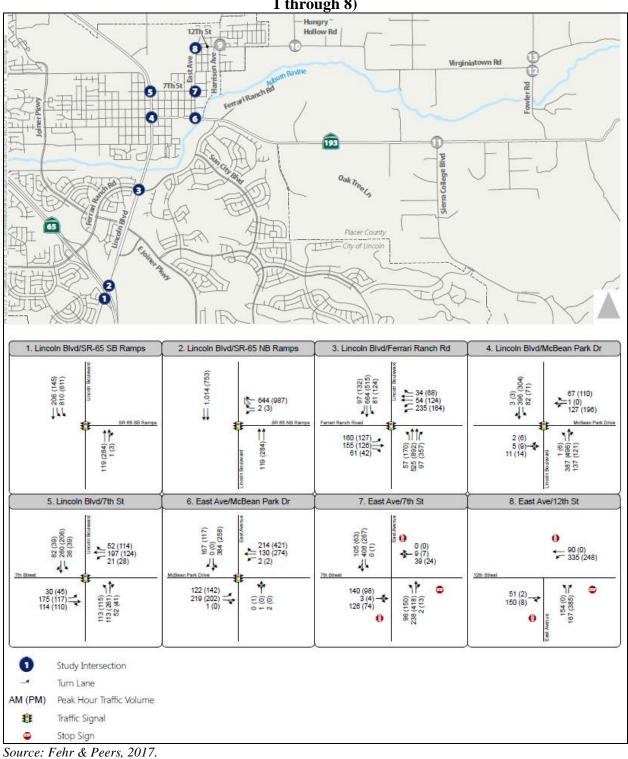


Figure 4.10-2 Peak Hour Traffic Volumes and Lane Configurations – Existing Conditions (Intersections 1 through 8)

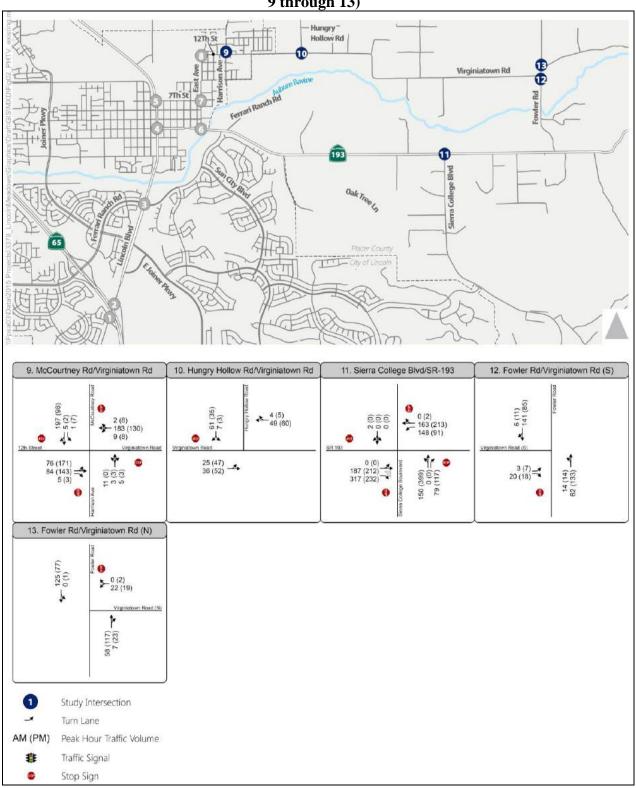


Figure 4.10-3 Peak Hour Traffic Volumes and Lane Configurations – Existing Conditions (Intersections 9 through 13)

Source: Fehr & Peers, 2017.

Table 4.10-4					
Peak Hour Int	tersection LOS -	- Existing	Conditions		
			ak Hour		k Hour
Intersection	Control	Delay ¹	LOS	Delay ¹	LOS
1. SR 65 SB Ramps/Lincoln Blvd	Traffic Signal	6	А	6	А
2. SR 65 NB Ramps/Lincoln Blvd	Traffic Signal	3	А	3	А
3. Ferrari Ranch Rd/Lincoln Blvd	Traffic Signal	31	С	22	С
4. McBean Park Dr/Lincoln Blvd	Traffic Signal	16	В	36	D
5. 7 th St/Lincoln Blvd	Traffic Signal	19	В	30	С
6. SR 193/East Ave	Traffic Signal	17	В	16	В
7. 7 th St/East Ave	All Way Stop	<u>37</u>	E	18	С
7. 7 St/East Ave	Control				C
8. 12 th St/East Ave	All Way Stop	20	С	13	В
8. 12 St/East Ave	Control	20	C	15	D
9. Virginiatown Rd/McCourtney	All Way Stop	11	В	11	В
Rd	Control	11	D	11	D
10. Virginiatown Rd/Hungry Hollow	Side Street	9 (5)	A (A)	9 (3)	A (A)
Rd	Stop Control	9(3)	A (A)	9(3)	A (A)
11. SR 193/Sierra College Blvd	All Way Stop	13	В	26	D
11. SK 195/Siella College Bivu	Control	15	Б	20	D
12. Virginiatown Rd/Fowler Rd (S)	Side Street	10(1)	B (A)	9(1)	A (A)
12. Virginiatown Ku/Powiel Ku (S)	Stop Control	10(1)	D(A)	9(1)	A (A)
13. Virginiatown Rd/Fowler Rd (N)	Side Street	10(1)	$\mathbf{P}(\mathbf{\Lambda})$	9(1)	A (A)
15. Virginiatown Ku/Fowler Ku (N)	Stop Control	10(1)	B (A)	9(1)	A (A)

Notes:

1. For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS is reported for the most-delayed individual movement and for the entire intersection (shown in parentheses).

2. Bold, underlined text indicates unacceptable LOS.

Source: Fehr & Peers, 2017

Roadways

Traffic operations were analyzed at the four study roadway segments. As seen in Table 4.10-5, all roadway segments operate at LOS A except for McBean Park Drive between East Avenue and Lincoln Boulevard, which operates at LOS B. All roadway segments currently operate acceptably according to City of Lincoln and Placer County standards.

Traffic operations along SR 193 between Sierra College Boulevard and Fowler Road were also analyzed using the California Department of Transportation (Caltrans) standard metric of percent time spent following (PTSF). The segment of SR 193 (now McBean Park Drive) between East Avenue and Lincoln Boulevard was relinquished to the City of Lincoln in June 2011 and was not analyzed using PTSF. Table 4.10-6 shows that SR 193 between Sierra College Boulevard and Fowler Road currently operates at LOS C during both the AM and PM peak hours. Operations are currently acceptable based on the Caltrans' operating standard of LOS D for this segment of SR 193, as described in the Regulatory Context section of this chapter.

	Table 4.10-5											
Placer County/City of Lincoln Roadway LOS – Existing Conditions												
		Daily Conditions										
	Average Daily V/C											
Segment	Туре	Traffic	Ratio	LOS								
Sierra College Blvd between McBean Park Dr & Taylor Rd	Two-Lane High Access Control Arterial	8,400	0.42	А								
Lincoln Blvd between Joiner Pkwy & SR 65 Interchange	Five-Lane Moderate Access Control Arterial	21,800	0.48	А								
SR 193 between Sierra College Blvd & Fowler Rd	Two-Lane High Access Control Arterial	7,300	0.36	A								
McBean Park Dr between East Ave & Lincoln Blvd	Two-Lane Low Access Control Arterial	9,200	0.61	В								
Hungry Hollow north of Virginiatown Rd	Two-Lane Low Access Control Arterial	1,100	0.07	А								
Virginiatown Rd between Hungry Hollow Road & McCourtney Rd	Two-Lane Low Access Control Arterial	3,300	0.22	А								
<u>Notes</u> : V/C ratio = volume to capacity ratio Values rounded to the nearest 100 vehicles.												

Source: Fehr & Peers, 2017.

	Table 4.10-6 State Route 193 Segment LOS – Existing Conditions											
		AM	Peak Ho	our			PM	Peak Ho	our			
Segment	Peak Dir. Peak Dir. Poly Prist Prist Prist Prist Volume Prist Volume Prist Volume Prist Volume Prist Volume Prist Volume									SOT		
SR 193 between	EB	257	55.5%	35.2	С	EB	377	69.2%	34.4	С		
Sierra College Blvd & Fowler Rd	WB	335	68.4%	33.4	С	WB	294	58.9%	34.8	С		
Notes: WB = westbound; EB = eastbound; Source: Fehr & Peers, 2017.												

Freeways

Table 4.10-7 presents existing traffic operations on SR 65. For the study segments between Twelve Bridges and Lincoln Boulevard, the Liesch Method was used for weaving analysis. All study segments operate acceptably at LOS C or better during both the AM and PM peak hours according to Caltrans' State Route 65 Corridor System Management Plan.

	Table 4.10-7 Peak Hour Freeway LOS – Existing Conditions										
	LOS / Average Density										
			AM Pe	eak							
			Hou	r	PM Peak	Hour					
Freeway	Location	Туре	Density ¹	LOS	Density ¹	LOS					
	Sunset to Twelve Bridges	Basic	15	В	24	С					
NB SR 65	Twelve Bridges On-Ramp to Lincoln Off- Ramp	Weave ²	-	А	-	С					
SB SR 65	Lincoln Blvd On-Ramp to Twelve R 65 Bridges Off-Ramp		-	С	-	А					
	Twelve Bridges to Sunset Boulevard	Basic	24	С	16	В					

Notes:

1. Density estimates are rounded to the nearest second. Corresponding LOS is based on first significant digit using HCM thresholds.

2. Weave sections analyzed using the Liesch Method. Density is not reported.

Source: Fehr & Peers, 2017

Transit Service

Lincoln Transit has partnered with Placer County Transit to consolidate multiple bus routes into one central route, displayed in Figure 4.10-4. The bus route displayed is the only transit available within the project study area. The route operates with one-hour headways Monday-Friday from 6:30 AM to 6:00 PM, and Saturday from 8:00 AM to 4:00 PM. Service is not offered on Sundays. The nearest transit stop to the project is on East Avenue, between 6th Street and 7th Street, which is over a mile from the project site.

Bicycle and Pedestrian Facilities

Figure 4.10-5 shows existing bicycle and pedestrian facilities within the study area. The following types of bicycle facilities exist within the study area:

- Multi-use paths (Class I) are paved trails that are separated from roadways, and allow for shared use by both cyclists and pedestrians.
- On-street bike lanes (Class II) are designated for use by bicycles by striping, pavement legends, and signs.
- On-street bike routes (Class III) are designated by signage for shared bicycle use with vehicles but do not include any additional pavement width.

Class I trails exist south of downtown Lincoln. Class II and III bicycle trails exist in the vicinity of downtown Lincoln and along East Avenue, as displayed in Figure 4.10-5. There are currently no bicycle facilities on Virginiatown Road at the project site, and bicycle facilities do not exist within a mile of the project site.

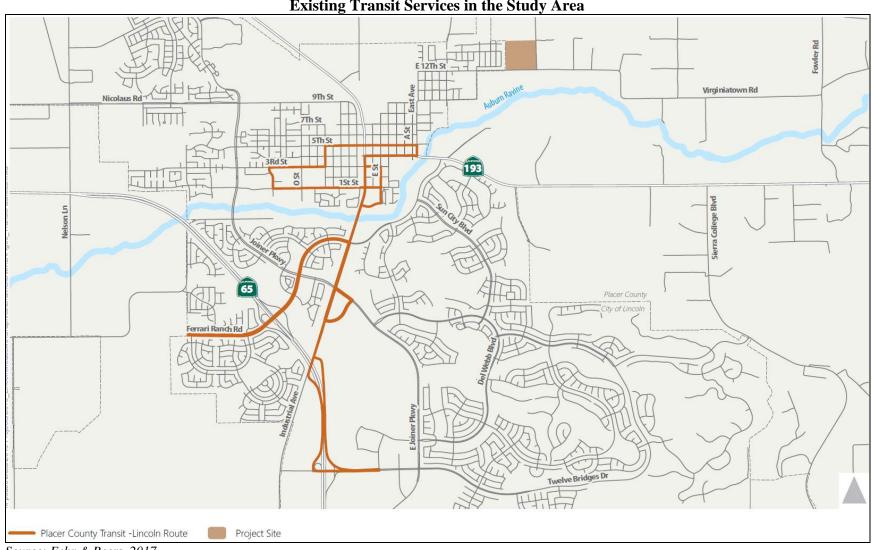


Figure 4.10-4 Existing Transit Services in the Study Area

Source: Fehr & Peers, 2017.



Figure 4.10-5 Existing Bicycle and Pedestrian Facilities in the Study Area

Due to the rural nature of the project site, pedestrian facilities do not exist where the proposed project would front on to Hungry Hollow Road and Virginiatown Road. Pedestrian facilities are prominent through residential neighborhoods and along Virginiatown Road west of the proposed project in the Lincoln Highlands subdivision. However, significant gaps in connectivity currently exist between downtown Lincoln and the proposed project despite the project site being located less than a mile and a half away. Many such gaps exist through residential neighborhoods immediately east of downtown Lincoln. Pedestrian facilities do not exist north or east of the proposed project.

4.10.3 REGULATORY CONTEXT

Federal, State, and local regulations pertaining to transportation that may be applicable to the proposed project are summarized below.

Federal Regulations

Federal regulations related to transportation that directly apply to the proposed project do not exist. However, federal regulations relating to the Americans with Disabilities Act (ADA), Title VI, and Environmental Justice do exist with regards to transit service.

State Regulations

Caltrans is responsible for operating and maintaining the State highway system. In the project vicinity, the mainline, ramps, and intersections along SR 65 fall under Caltrans jurisdiction.

State Route 65 Corridor System Management Plan

In June 2009, Caltrans approved a Corridor System Management Plan (CSMP) for SR 65 from I-80 in Roseville to SR 70 in Yuba County, south of Marysville. The CSMP is a long-range comprehensive planning document for State highway facilities that includes system management strategies and performance evaluation measures to track the effectiveness of strategies and projects.

The CSMP documents the current LOS on SR 65 and the future LOS when considering feasible long-term projects. The CSMP also identifies a concept LOS, or the minimum level or quality of operations acceptable, for SR 65 within the 20-year planning period. A deficiency or need for improvement is triggered when the actual LOS falls below the concept LOS. Within our study area, the SR 65 CSMP identifies the 20-year concept LOS as LOS E from Blue Oaks Boulevard to Ferrari Ranch Road.¹

Because SR 65 is a Caltrans facility, the analysis within this chapter applies the CSMP concept LOS to study highway and freeway segments, ramps, and intersections along SR 65. The LOS policy for Caltrans is applied at ramp terminal intersections within the City of Lincoln as described in the Local Regulations section below.

¹ Caltrans. *State Route 65 Corridor System Management Plan* [Table 11]. Approved June 24, 2009.

Caltrans Guide for the Preparation of Traffic Impact Studies

Caltrans' *Guide for the Preparation of Traffic Impact Studies* provides general guidance regarding the preparation of traffic impact studies for projects that may have an impact on the State Highway System. The guidance includes when a traffic study should be prepared and the methodology to use when evaluating operating conditions on the State highway system, including requiring that weave segments use the Liesch method to analyze traffic operations. The *Guide for the Preparation of Traffic Impact Studies* states that where "an existing State highway facility is operating at less than the appropriate target LOS, the existing measure of effectiveness (MOE) should be maintained."²

Local Regulations

The local policies and regulations applicable to the proposed project related to transportation and circulation are presented below.

City of Lincoln General Plan

Policy T-2.3 establishes the City of Lincoln's LOS C policy for signalized intersections during the PM peak hour. Because the City does not have any similar LOS policy for unsignalized intersections or other time periods (i.e., AM peak hour), the analysis within this chapter applies the LOS C standard to all City of Lincoln intersections during both the AM and PM peak hours, consistent with previous traffic analyses prepared for the City of Lincoln, with the exception of those intersections identified in Policy T-2.3.

The City of Lincoln General Plan Policy T-2.4 also states that the City shall coordinate with Caltrans to strive to maintain a minimum of LOS D conditions for SR 65. The policy is applied to Caltrans ramp intersections where they intersect City of Lincoln roadways; however, Caltrans CSMP concept LOS is applied to the SR 65 freeway and highway segments within the City of Lincoln, as they are under Caltrans jurisdiction and control.

Chapter 6, General Plan Policy Consistency, further identifies adopted General Plan policies that are relevant to the evaluation of transportation and circulation and an evaluation of consistency with those policies. No inconsistencies with the General Plan policies are identified. However, while City staff has done its best to ascertain consistency, the Lincoln City Council makes the ultimate decision regarding consistency with the General Plan.

City of Lincoln 2012 Bicycle Transportation Plan Update

The City of Lincoln 2012 Bicycle Transportation Plan Update includes the following policies related to bicycle circulation in new development areas that are relevant to the proposed project analysis.

² Caltrans. *Guide for the Preparation of Traffic Impact Studies* [pg. 1]. 2002.

Goal 1 Provide a well-connected bikeway system within the City of Lincoln to improve the quality of life for all residents and visitors.

Policy 1.5 Provide bicycle connections that allow for regional bike travel to and from the City of Lincoln.

- Policy 1.6 Integrate bicycle planning with other community planning, including land use and transportation planning.
- Goal 2 Include bikeway facilities in all appropriate development projects to facilitate onsite circulation for bicycle and pedestrian travel, on-site bicycle parking, and connections to the proposed system of golf cart and NEV facilities.
 - Policy 2.1 Require new development projects to reserve the right-ofway for multi-use trails shown in the proposed system of bikeways.
 - Policy 2.3 Provide pedestrian/bicycle crossings at appropriate intervals along new roadways that will adequately serve new large-scale commercial office, industrial development, and residential development.

Placer County General Plan

The Placer County General Plan includes the following policies related to transportation and circulation that are relevant to the proposed project analysis.

- Goal 3.A To provide for the long-range planning and development of the County's roadway system to ensure the safe and efficient movement of people and goods.
 - Policy 3.A.7 The County shall develop and manage its roadway system to maintain the following minimum levels of service (LOS), or as otherwise specified in a community or specific plan:
 - LOS C on rural roadways, except within one-half mile of state highways where the standard shall be LOS D.
 - LOS C on urban/suburban roadways except within one-half mile of state highways where the standard shall be LOS D.
 - An LOS no worse than specified in the Placer County Congestion Management Program (CMP) for the state highway system.

Temporary slippage in LOS C may be acceptable at specific locations until adequate funding has been collected for the construction of programmed improvements.

The County may allow exceptions to these levels of service standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable based on established criteria. In allowing any exception to the standards, the County shall consider the following factors:

- The number of hours per day that the intersection or roadway segment would operate at conditions worse than the standard.
- The ability of the required improvement to significantly reduce peak hour delay and improve traffic operations.
- The right-of-way needs and the physical impacts on surrounding properties.
- The visual aesthetics of the required improvement and its impact on community identity and character.
- Environmental impacts including air quality and noise impacts.
- Construction and right-of-way acquisition costs.
- The impacts on general safety.
- The impacts of the required construction phasing and traffic maintenance.
- The impacts of quality of life as perceived by residents.
- Consideration of other environmental, social, or economic factors on which the County may base findings to allow an exceedance of the standards.

Exceptions to the standards will only be allowed after all feasible measures and options are explored, including alternative forms of transportation.

- Goal 3.D To provide a safe, comprehensive, and integrated system of facilities for nonmotorized transportation.
 - Policy 3.D.2 The County shall work with neighboring jurisdictions to coordinate planning and development of the County's bikeways and multi-purpose trails with those of neighboring jurisdictions.

4.10.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to transportation and circulation. A discussion of the project's impacts, as well as mitigation measures, where necessary, is also presented.

Standards of Significance

The standards of significance used for the proposed project impact analysis are based on the applicable vehicle LOS policies and standards for the City of Lincoln, Caltrans, and Placer County, and are described in further detail below.

Intersections

Impacts to traffic conditions at intersections are considered significant if the proposed project would result in any of the following:

- Cause an intersection operating at an acceptable LOS (without the project) to operate at an unacceptable LOS (with the project);
- Increase the average vehicle delay for a City of Lincoln or County of Placer study intersection by five seconds or more that is already (or projected to be) operating at an unacceptable LOS (without project);³ or
- Increase the average vehicle delay for a Caltrans study intersection by one second or more that is already (or projected to be) operating at an unacceptable LOS (without project).

For City of Lincoln intersections, LOS A through C is considered acceptable, while LOS D through F is considered unacceptable per Lincoln General Plan Policy T-2.3. However, according to Policy T-2.3, exceptions are made for intersections along Lincoln Boulevard, between 1st Street and 7th Street, and along McBean Parkway (SR 193), between Lincoln Boulevard and East Avenue, which are excluded from the LOS C standard.

For Placer County intersections, LOS A through C is considered acceptable, while LOS D through F is considered unacceptable per Placer County General Plan Policy 3.A.7. At Caltrans intersections, the SR 65 CSMP establishes a concept LOS E for SR 65 through the study area. As previously stated, the City of Lincoln General Plan Policy T-2.4 states that the City shall coordinate with Caltrans to strive to maintain a minimum of LOS D conditions for SR 65.

Based on the aforementioned policies, LOS A through D is considered acceptable at the ramp intersections at City of Lincoln roadways, while LOS E and F are considered unacceptable, consistent with the Lincoln General Plan policy. At intersections along SR 65 in unincorporated Placer County, LOS A through E is considered acceptable, while LOS F is considered unacceptable per the SR 65 CSMP.

³ City of Lincoln. *Final Environmental Impact Report for the Village 7 Specific Plan Project*. June 2009.

<u>Roadways</u>

Impacts to traffic conditions on roadway segments are considered significant if the proposed project would result in any of the following:

- Cause a roadway segment operating at an acceptable LOS (without the project) to operate at an unacceptable LOS (with the project); or
- Increase the volume to capacity ratio by 0.01 or more for a roadway segment that is already (or projected to be) operating at an unacceptable LOS (without project).

The study roadway segments along SR 193 between Lincoln Boulevard and East Avenue and along Lincoln Boulevard between the SR 65 Interchange and Joiner Parkway are located within the City of Lincoln, for which LOS C is used as the LOS standard. Policy 3.A.7 of the Placer County General Plan designates LOS A through C as acceptable, which includes the segment of Sierra College Boulevard between SR 193 and Taylor Road. Lastly, the City of Lincoln General Plan Policy T-2.4 states that the City shall coordinate with Caltrans to maintain an LOS D standard on SR 193 between Sierra College Boulevard and Fowler Road.

Freeway Facilities

Impacts to traffic conditions on highway and freeway facilities are considered significant if the proposed project would result in any of the following:

- Cause a highway or freeway facility operating at an acceptable LOS (without the project) to operate at an unacceptable LOS (with the project); or
- Increase the traffic volume by 60 or more vehicles for a highway or freeway facility that is already (or projected to be) operating at an unacceptable LOS (without project).

As described above, the SR 65 CSMP identifies LOS E or better as the concept LOS, and is considered acceptable, on SR 65 from Blue Oaks Boulevard to Ferrari Ranch Road, while LOS F is unacceptable. Because SR 65 is a Caltrans facility, the CSMP concept LOS is applied to study highway and freeway segments along SR 65, instead of local LOS policies.

The SR 65 CSMP also notes that "no further degradation of service from existing "F" is acceptable, as indicated by delay performance measurement."⁴ For freeway facilities, the applicable performance standard is density, which is expressed in passenger cars per hour per mile per lane. Because density values are rounded to the nearest integer value for reporting purposes, a minimum density increase of 0.5 would, by definition, cause an increase in the reported density measurement. Density is not reported for LOS F conditions, but is reported for LOS A through E conditions. Through an iterative process, a 60-vehicle increase to a four-lane freeway operating at LOS E was determined to approximately correspond to a 0.5-increase in density. Accordingly, an increase of 60 or more vehicles during a peak hour to a facility operating at LOS F is the threshold of significance used for the analysis.

⁴ Caltrans. *State Route 65 Corridor System Management Plan* [Table 11]. Approved June 24, 2009.

Transit, Bicycle and Pedestrian Facilities

The significance criteria used for transit, bicycle and pedestrian facilities reflect whether the proposed project would conflict with adopted plans, policies, or programs regarding transit, bicycle and pedestrian facilities.⁵ Impacts to transit, bicycle and pedestrian facilities are considered significant if the proposed project would result in any of the following:

- Create inconsistencies with adopted transit, bicycle, or pedestrian system plans, guidelines, policies, or standards.
- Decrease the performance or safety of such facilities.

Emergency Vehicle Access

Impacts related to emergency vehicle access are considered significant if the proposed project would result in inadequate emergency access.

Construction Impacts

Impacts associated with construction-related effects on the transportation and circulation system are considered significant if construction activities for the proposed project would create a prolonged impact on travel conditions or facilities, including inadequate emergency vehicle access, traffic hazards to bicyclists and pedestrians, damage to roadbeds, or substantial truck traffic on roadways not designated as truck routes.

Increased Traffic Hazards

According to CEQA Guidelines Appendix G, a significant impact could occur if a project would substantially increase hazards due to a design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Issues Not Discussed Further

According to the Initial Study prepared for the proposed project (see Appendix C), the proposed project was determined not to result in any changes in air traffic patterns, including either an increase in traffic levels or a change in location, that would result in substantial safety risks. Therefore, impacts related to such would not occur and are not further analyzed or discussed in this EIR chapter.

Method of Analysis

A discussion of the key methods used in the analysis to estimate the proposed project's travel characteristics and to assess the proposed project's impacts on the transportation and circulation system is presented below.

⁵ Association of Environmental Professionals. 2016 CEQA Statute and Guidelines [pg. 283; Sample Question XVI.f]. 2016.

Analysis Scenarios

The following analysis scenarios are included in the analysis:

- **Existing Conditions**: presents operating conditions as of winter 2015. Existing Conditions represents the baseline condition, upon which project impacts are evaluated.
- **Existing Plus Project Conditions**: evaluates the project-specific effects of the proposed project.
- **Cumulative No Project Conditions**: assumes cumulative land use assumptions and planned roadway network but without development on the project site.
- **Cumulative Plus Project Conditions**: assumes cumulative land use assumptions, including development of the project as proposed, and planned roadway network.

Plus Project Conditions

The Existing Plus Project Conditions and the Cumulative (2035) Plus Project Conditions evaluate the project-specific effects of the proposed project on the existing and cumulative operating conditions, respectively. The project-specific conditions assumptions are described in further detail below.

Project Description

The proposed project would consist of 144 single-family residential units situated on 40 acres located northwest of the intersection of Virginiatown Road and Hungry Hollow Road. The analysis within this chapter, however, assumed 148 units, based on an earlier site plan. Thus, the analysis presented within this chapter would be considered conservative.

Project access at buildout would be via one driveway onto Virginiatown Road and one onto Hungry Hollow Road. A second driveway onto Virginiatown Road would provide access for emergency vehicles, bicycles, and pedestrians. During development of the first 42 units of the project, vehicle access to the site would be provided via one project driveway onto Virginiatown Road. For CEQA purposes, however, the Existing Plus Project scenario of this analysis includes full buildout of the proposed project. Therefore, the Existing Plus Project transportation network assumes the project driveway onto Hungry Hollow Road (as well as the driveway onto Virginiatown Road).

Project Traffic Characteristics

Traffic generated by the proposed project is assigned to the roadway network using the following three-step process:

- 1. Trip Generation estimates the amount of traffic generated by the proposed plans based on the planned land uses;
- 2. Trip Distribution distributes project trips based on origins and destinations in the region; and

3. Trip Assignment – assigns project trips to the roadway network based on the proposed project's trip generation and distribution.

The analysis within this chapter uses the 2008 Placer County travel demand forecasting (TDF) model for the three-step process. The TDF model uses land use inputs, trip rates, and other traffic engineering inputs to estimate travel demand. The model's roadway network includes major roadways, including freeways, highways, arterials, and collectors. The proposed project analysis uses a version of the 2008 Placer County TDF model that has been updated to include the SR 65 Lincoln Bypass in the Base Year model, as well as updated land uses to reflect recent land development. The analysis of the proposed project's traffic impacts is consistent with the approach used in other recent proposals in Lincoln, including the Village 5 and SUD-B Specific Plan and the Lincoln Independence Development project.

Trip Generation

Traffic generated by the proposed project was estimated using the Institute of Transportation Engineer's (ITE) standard rates for project-specific land uses. The rates are typical for suburban development similar in nature to the proposed project. Table 4.10-8, below, displays the number of new vehicle trips generated by the project for the AM and PM peak hour conditions.

As shown in Table 4.10-8 below, the project would generate about 1,400 new daily vehicle trips, 114 new AM peak hour trips, and 151 new PM peak hour trips.

Trip Distribution

The proposed project analysis uses the Placer County TDF model to estimate the distribution of proposed project trips. The TDF model estimates the distribution of the project trips based on how the new uses may interact with existing land uses, as well as uses within the proposed project. The distribution takes into account complimentary land uses and the proximity in which they are located. Figure 4.10-6 displays the project trip distribution under both the AM and PM peak hours for the Existing Plus Project Condition.

	Table 4.10-8												
Lincoln Meadows Trip Generation													
						Daily	AN	I Peak	Hour	PM Peak Hour			
	Ar	nount	Tr	ip Rate	es	Trips		Trip	S		Trip	s	
Land Use	Units	Quantity	Daily	AM	PM		In	Out	Total	In	Out	Total	
Single-													
Family	du ¹	148	9.52	0.77	1.02	1,409	38	76	114	95	56	151	
Residential													
		Т	otal Ne	t New '	Trips	1,409	38	76	114	95	56	151	
Notes:													
Trip Generation, 9 th Edition (Institute of Transportation Engineers, 2012) was used to develop trip generation													
rates.													
1. du = dwelling unit													

Source: Fehr & Peers, 2017

Assumptions were made about the distribution of traffic accessing the project based on the project site plan. The assumptions include that 60 percent of project traffic would use Virginiatown Road, while 40 percent would use Hungry Hollow Road. Project traffic would not use the second driveway onto Virginiatown Road, and, therefore, the driveway is not included in the site access distribution.

To reflect changes to the roadway network and land use inputs under cumulative conditions, the 2025 Placer County TDF model was used to determine trip distribution and trip assignment. The trip distribution was assumed similar to the above under cumulative conditions (i.e., 60 percent of project traffic is assumed to use Virginiatown Road and 40 percent percent is assumed to use Hungry Hollow Road).

Trip Assignment

Using the trip generation and distribution data described above, the project trips were manually assigned to the network. The trip assignment is based on the most likely routes that would be used to travel between origins and destinations. To account for model error, the analysis adjusts the Existing Plus Project traffic forecasts using a process known as the "difference method," which adjusts raw model volume forecasts based on expected incremental growth from Existing Conditions using the following formula:

Existing Plus Project Forecasts = Existing Traffic Count + (Existing Plus Project Raw Model Volume – Base Year Raw Model Volume)

The proposed project analysis uses the difference method process to develop the Existing Plus Project traffic forecasts at the study intersections, roadway segments, highways, and freeway facilities.

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Hungry Hollow F 10% 35% %(93% 2%(7%) Virginiatown Rd Auburn Ravine 7%(7%) 4%(4%) 22%(25%) 7Th St 15%(25%) -20%(30%) 193 3%(5%) 2%(2%) 0%(2%) 2%(2%) 3%(5%) 2%(2%) Sierra College Blvd 5 Placer County City of Lincoln T AM (PM) Outbound Trip Distribution City of Lincoln AM (PM) - Inbound Trip Distribution Project Site Source: Fehr & Peers, 2017.

Figure 4.10-6 Existing Plus Project Trip Distribution

Cumulative Conditions

The anticipated travel characteristics under cumulative conditions for the roadway system are discussed below. The Placer County TDF model is used to forecast cumulative traffic volumes within the study area. To identify the proposed project's cumulative effect, the cumulative conditions analysis includes the following two scenarios:

- Cumulative No Project Conditions; and
- Cumulative Plus Project Conditions.

Both scenarios include the land use and transportation system inputs described below. The Cumulative No Project scenario includes cumulative land use and transportation system inputs and does not include any development proposed as part of the project. The Cumulative Plus Project scenario includes the proposed project in addition to the cumulative land use and transportation system inputs. The difference in traffic conditions between the two scenarios is assumed to be the proposed project's incremental effect when viewed in connection with the effects of other current and probable future projects.

Cumulative Land Use and Transportation System Inputs

The cumulative version of the 2008 Placer County TDF model has a horizon year of 2025. Because the recent economic recession slowed the pace of land development in Placer County seen prior to 2008, the land use development assumed in the 2025 Placer County TDF model is unlikely to occur within the next ten years. For example, the Sacramento Area Council of Governments' (SACOG) 2035 Metropolitan Transportation Plan and Sustainable Communities Strategy (MTP/SCS) forecasts a dramatically reduced amount of growth in South Placer County. In fact, the growth anticipated for the City of Lincoln by 2035 in the SACOG MTP/SCS is only about one-third of the growth included in the 2025 Placer County TDF model.

Relevant and noteworthy projects that are assumed as part of the cumulative model include:

- Lincoln Village 1 (approved Village 1 Specific Plan), 5 (proposed Village 5 Specific Plan), and 7 (approved Village 7 Specific Plan);
- Placer Ranch;
- SUD-B (Special Use District characterized by proximity to the Lincoln Regional Airport);
- Independence at Lincoln; and
- Amoruso Ranch.

The following proposed developments have limited or no growth in the SACOG MTP/SCS, do not have approved specific plans, and are, therefore, not assumed as part of the cumulative model:

• Lincoln Villages 2, 3, 4, and 6; and

• SUD-C (Special Use District characterized by proximity to City wastewater treatment facility and Western Regional Sanitary Landfill).

In addition to land development considerations, roadway network considerations were also made. The analysis cross-referenced the SACOG MTP/SCS financially constrained transportation project list to verify that the reasonably foreseeable funded transportation infrastructure improvements are included. The improvements include the SR 65/Whitney Ranch Interchange, the Oak Tree Lane extension to the intersection of Virginiatown Road/Hungry Hollow Road, and the extension of Ferrari Ranch Road to Oak Tree Lane.

Cumulative Traffic Forecasts

Similar to the Existing Plus Project travel demand modeling, the cumulative conditions traffic volumes were forecast using the "difference method," which adjusts raw model volume forecasts based on expected incremental growth from Existing Conditions using the following formula:

Cumulative Forecasts = Existing Traffic Count + (Cumulative Raw Model Volume – Base Year Raw Model Volume)

The proposed project analysis uses the difference method process to first develop Cumulative Plus Project traffic forecasts. Following the development of Cumulative Plus Project traffic forecasts, Cumulative No Project traffic forecasts were developed by manually subtracting project trips assigned to the network according to the cumulative project distribution.

Cumulative Traffic Characteristics

The methodology for analyzing the project's traffic characteristics in the cumulative scenario follows the same three-step process as in Existing Plus Project Conditions. The outcome of trip generation would be the same as under Existing Plus Project Conditions. To reflect changes to the roadway network and land use inputs under cumulative conditions, the 2025 Placer County TDF model was used to determine trip distribution and trip assignment. Similar to the Existing Plus Project Conditions, 60 percent of project traffic is assumed to use Virginiatown Road, while 40 percent is assumed to use Hungry Hollow Road. The project's trip distribution under both the AM and PM peak hours for the Cumulative Plus Project Condition is illustrated in Figure 4.10-7.

Project-Specific Impacts and Mitigation Measures

The proposed project impacts on the transportation system are evaluated in this section based on the thresholds of significance and methodology described above. Each impact is followed by recommended mitigation to reduce the identified impacts, if needed.

4.10-1 Impacts to study intersections. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Figure 4.10-8 and Figure 4.10-9 display the Existing Plus Project traffic forecasts at the study intersections. Table 4.10-9 presents the anticipated AM and PM peak hour LOS

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Figure 4.10-7 Cumulative Plus Project Trip Distribution

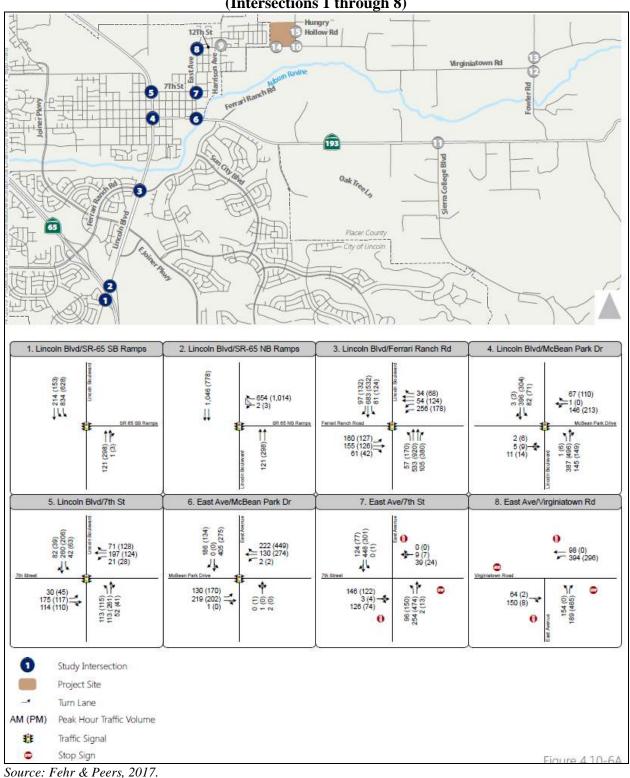


Figure 4.10-8 Peak Hour Traffic Volume and Lane Configurations – Existing Plus Project Conditions (Intersections 1 through 8)

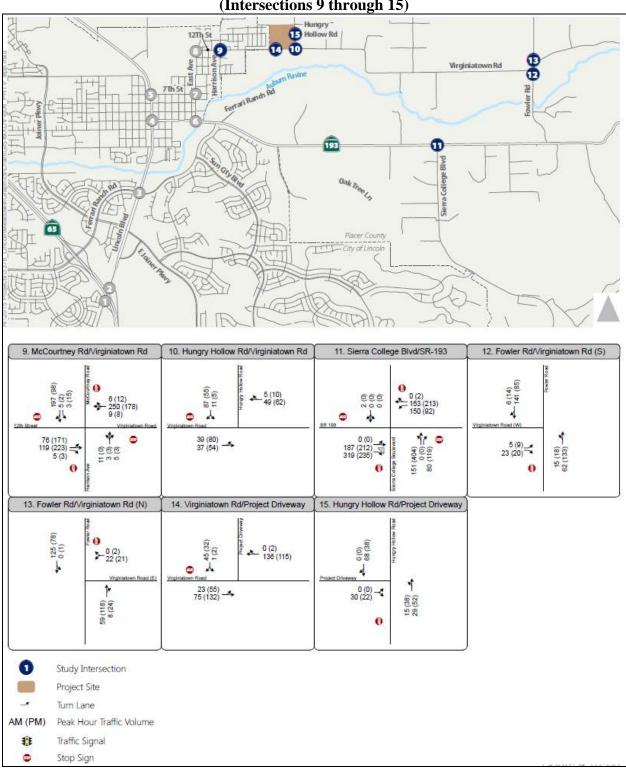


Figure 4.10-9 Peak Hour Traffic Volume and Lane Configurations – Existing Plus Project Conditions (Intersections 9 through 15)

Source: Fehr & Peers, 2017.

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			4.10-9										
Peak H	Peak Hour Intersection LOS – Existing Plus Project Conditions Existing Conditions Existing Conditions												
						Existing Plus Project Conditions							
T. 4	Control		ak Hour	PM Peak Hour		AM Peak Hour		PM Peak Hour					
Intersection	Control	Delay ¹	LOS^2	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS^2				
1. SR 65 SB Ramps/Lincoln Blvd	Traffic Signal	6	A	6 3	A	6	A	6	A				
2. SR 65 NB Ramps/Lincoln Blvd	Traffic Signal	3	A	-	A	2	A	3	A				
3. Ferrari Ranch Rd/Lincoln Blvd	Traffic Signal	31	C	22	C	34	C	22	C				
4. McBean Park Dr/Lincoln Blvd	Traffic Signal	16	B	36	D	17	B	41	D				
5. 7 th St/Lincoln Blvd	Traffic Signal	19	В	30	С	19	В	30	С				
6. McBean Park Dr /East Ave	Traffic Signal	17	В	16	В	18	В	17	В				
7. 7 th St/East Ave	All Way Stop Control	<u>37</u>	<u>E</u>	18	С	<u>38</u>	<u>E</u>	25	С				
8. 12 th St/East Ave	All Way Stop Control	20	С	13	В	<u>31</u>	D	16	С				
9. Virginiatown Rd/McCourtney Rd	All Way Stop Control	11	В	11	В	12	В	14	В				
10. Virginiatown Rd/Hungry Hollow Rd	Side Street Stop Control	9 (5)	A (A)	9 (3)	A (A)	9 (5)	A (A)	9 (4)	A (A)				
11. SR 193/Sierra College Blvd	All Way Stop Control	13	В	26	D	13	В	27	D				
12. Virginiatown Rd/Fowler Rd (S)	Side Street Stop Control	10 (1)	B (A)	9 (1)	A (A)	9 (2)	A (A)	9 (1)	A (A)				
13. Virginiatown Rd/Fowler Rd (N)	Side Street Stop Control	10 (1)	B (A)	9 (1)	A (A)	10 (1)	B (A)	10(1)	A (A)				
14. Virginiatown Rd/Project Driveway	Side Street Stop Control					9 (2)	A (A)	9 (2)	A (A)				
15. Hungry Hollow Rd/Project Driveway	Side Street Stop Control					9 (3)	A (A)	9 (3)	A (A)				

Notes:

1. For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS is reported for the most-delayed individual movement and for the entire intersection (shown in parentheses).

2. Bold, underlined text indicates unacceptable LOS.

Source: Fehr & Peers, 2017

at each study intersection under Existing Plus Project Conditions (refer to Appendix O for calculations). Based on the analysis, all City of Lincoln intersections currently operate acceptably and would continue to operate acceptably under Existing Plus Project Conditions, which the exception of the following two intersections:

- Intersection #7 (7th Street/East Ave) All Way Stop Control
- Intersection #8 (12th Street/East Ave) All Way Stop Control

In addition, all Caltrans intersections currently operate acceptably and would continue to operate acceptably under Existing Plus Project Conditions.

The two intersections identified as operating unacceptably under Existing Plus Project Conditions are discussed in further detail below.

Intersection #7 (7th Street/East Ave) – All Way Stop Control

The proposed project would add traffic to the 7th Street/East Avenue intersection that currently operates at an unacceptable LOS E under Existing Conditions during the AM Peak hour. For intersections that currently operate unacceptably, the City of Lincoln designates a significance threshold of five seconds of incremental addition in average vehicle delay. The proposed project would increase delay at the 7th Street/East Avenue intersection by one second during the AM peak hour, which is below the five-second increase in delay threshold. As such, the proposed project would not cause a significant impact at the 7th Street/East Avenue intersection.

Intersection #8 (12th Street/East Ave) – All Way Stop Control

Project-generated traffic would cause the 12th Street/East Avenue intersection, currently operating at an acceptable LOS under Existing Conditions, to operate at unacceptable LOS. The 12th Street/East Avenue intersection would operate at LOS D during the AM peak hour under Existing Plus Project Conditions. Because the proposed project would cause delay at the intersection of 12th Street/East Avenue to increase such that the intersection LOS would degrade from an acceptable LOS C to an unacceptable LOS D during the AM peak hour, the proposed project would be considered to result in a significant impact to the 12th Street/East Avenue intersection.

Conclusion

Overall, because the proposed project would cause an intersection operating at an acceptable LOS (without the project) to operate at an unacceptable LOS (with the project), the proposed project's impact to study intersections, specifically the intersection of 12th Street/East Avenue, would be considered *significant*.

Mitigation Measure(s)

Signalization of the 12th Street/East Avenue intersection would improve intersection operations to acceptable LOS B and is included in the City of Lincoln's Public

Facilities Element (PFE). As a result, payment of the project's fair-share cost of the programmed improvement, or construction of the improvement (subject to future reimbursement), would reduce this impact to a *less-than-significant* level.

4.10-1 Prior to issuance of a building permit, the project applicant shall pay its fair-share cost towards signalization of the 12th Street/East Avenue intersection. This improvement is included in the City's updated PFE fee program. Therefore, PFE credits would be given to the constructing party. Alternatively, the City may require the project applicant to construct the improvements and provide it with a right of reimbursement from third parties who also benefit from the improvement. Payment by the applicant of the City's PFE transportation fees shall represent the project's fair share of this improvement.

4.10-2 Impacts to study roadway segments. Based on the analysis below, the impact is *less than significant*.

Table 4.10-10 presents the daily traffic volumes for each roadway segment and the corresponding LOS under Existing Plus Project Conditions. Based on the results presented in Table 4.10-10, all study roadway segments currently operate acceptably and would continue to operate acceptably at LOS B or better under Existing Plus Project Conditions.

Table 4.10-11 shows the roadway LOS results analyzed using PTSF, which is the appropriate metric for two-lane undivided highways, such as SR 193. The LOS results show that SR 193 between Sierra College Boulevard and Fowler Road is currently operating acceptably and would continue to operate acceptably at LOS C during both the AM and PM peak hours.

Overall, all Placer County and City of Lincoln study roadway segments currently operate acceptably and would continue to operate acceptably under Existing Plus Project Conditions. Therefore, project impacts to study roadway segments would be *less than significant*.

<u>Mitigation Measure(s)</u> *None required*.

4.10-3 Impacts to study freeway facilities. Based on the analysis below, the impact is *less than significant*.

Table 4.10-12 presents the AM and PM peak hour traffic densities for each SR 65 freeway segment and the corresponding LOS. Based on the results, all study freeway segments operate acceptably under Existing Conditions. All study segments would continue to operate acceptably at LOS C or better, with the addition of project traffic, based on the Concept LOS identified in the SR 65 CSMP. Therefore, project impacts to study freeway facilities would be *less than significant*.

Placer County/City of	Table 4.10-10 Placer County/City of Lincoln Roadway LOS – Existing Plus Project Conditions											
			ng Condi		Existing Plus Proje Conditions							
Segment	Туре	ADT	V/C Ratio	LOS	ADT	V/C Ratio	LOS					
Sierra College Blvd between SR 193 & Taylor Rd	Two-Lane High Access Control Arterial	8,400	0.42	A	8,500	0.42	A					
Lincoln Blvd between Joiner Pkwy & SR 65 Interchange	Five-Lane Moderate Access Control Arterial	21,800	0.48	А	22,400	0.50	А					
SR 193 between Sierra College Blvd & Fowler Rd	Two-Lane High Access Control Arterial	7,300	0.36	А	7,400	0.36	А					
McBean Park Dr between East Ave & Lincoln Blvd	Two-Lane Low Access Control Arterial	9,200	0.61	В	9,600	0.64	В					
Hungry Hollow north of Virginiatown Rd	Two-Lane Low Access Control Arterial	1,100	0.07	А	1,700	0.11	А					
Virginiatown Rd between Hungry Hollow Road & McCourtney Rd	Two-Lane Low Access Control Arterial	3,300	0.22	А	4,700	0.31	А					
Notes:												

 $\overline{V/C}$ ratio = volume to capacity ratio; Values rounded to the nearest 100 vehicles.

Source: Fehr & Peers, 2016.

Table 4.10-11 State Route 193 Segment LOS – Existing Plus Project Conditions													
	Existing Conditions Existing Plus Pr			Existing Conditions Existing Plus Pro						Existing Conditions Existing Plus Project			
Segment	Study Period	Peak Dir.	Volume	PTSF	Avg. Speed	SOJ	Peak Dir.	Volume	PTSF	Avg. Speed	ros		
	AM	EB	257	55.5%	35.2	С	EB	258	55.8%	35.3	С		
SR 193 between Sierra	Alvi	WB	335	68.4%	33.4	С	WB	336	68.4%	33.4	С		
College Blvd & Fowler Rd	PM	EB	377	69.2%	34.4	С	EB	379	69.2%	34.4	С		
	PIVI	WB	294	58.9%	34.8	С	WB	294	58.9%	34.8	С		
<u>Notes</u> : WB = westbound; EB = eastbou	and; $vph = \frac{1}{2}$	vehicle	s per h	our									

Source: Fehr & Peers, 2016.

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	Table 4.10-12 Peak Hour Freeway LOS – Existing Plus Project Conditions												
			Existing Existing Plus Projection AM Peak Hour PM Peak Hour AM Peak Hour PM Feak Hour							t 1k Hour			
Freeway	Location	Туре	Density ¹	LOS	Density ¹	LOS	Density ¹	LOS	Density ¹	LOS			
	Sunset Blvd to Twelve Bridges Dr	Basic	14.6	В	24.0	С	14.6	В	24.2	С			
NB SR 65	Twelve Bridges Dr to Lincoln Blvd	Weave ²	-	А	-	С	-	А	-	С			
SD SD C5	Lincoln Blvd to Twelve Bridges Dr	Weave ²	-	С	-	А	-	С	-	А			
SB SR 65 Twelve Bridges Dr to Sunset Blvd		Basic	24.1	С	16.4	В	24.4	С	16.6	В			
	sity estimates are rounded to the nearest se			_									

2. Weave sections analyzed using the Liesch Method. Density is not reported.

Source: Fehr & Peers, 2017

<u>Mitigation Measure(s)</u> None required.

4.10-4 Impacts to transit facilities. Based on the analysis below, the impact is *less than* significant.

The Transportation and Circulation Element of the City of Lincoln General Plan includes policies related to transit facilities, including Policies T-4.3, T-4.4, and T-4.6. According to Policy T-4.3, the City shall promote use of public transit through development conditions requiring park-and-ride lots, bus turnouts, and passenger shelters along major streets adjacent to appropriate land uses. The roadways in the vicinity of the project site, including Virginiatown Road, are not identified as major streets. Virginiatown Road is identified as a "collector" on the Lincoln General Plan Circulation Diagram. Accordingly, Policy T-4.3 would not directly apply to the proposed project. In addition, Policies T-4.4 and T-4.6 are directed towards large-scale developments, such as employment-generating commercial and office uses, and largescale residential developments. The proposed project would not constitute employmentgenerating uses, and the introduction of 144 single-family residential units would not constitute a large-scale residential development. Therefore, the proposed project would not create any inconsistencies with adopted transit plans, guidelines, policies, or standards.

Currently, expansion of the existing transit service is not planned within the project study area under Existing Plus Project Conditions. Less than a quarter mile is typically considered preferable walking distance to transit. As stated in the Existing Environmental Setting section of this chapter, the nearest transit stop to the project site is located on East Street, between 6th Street and 7th Street, which is over a mile from the project site. Due to the location of the closest transit stop to the project site, the ability for residents to use the fixed transit route would be limited under Existing Plus Project Conditions. Placer County Transit does offer paratransit Dial-A-Ride (curb-to-curb) service for persons with disabilities that are unable to use the fixed-route service.

Based on the above, any increase in usage of existing transit facilities as a result of the proposed project would not be substantial such that the performance or safety of such facilities would decrease. Additionally, given that the proposed project would not worsen the LOS at any intersections in the project vicinity, transit travel times would not be substantially affected.

Overall, the proposed project would not be considered to be inconsistent with any adopted transit plans, guidelines, policies, or standards and would not decrease the performance or safety of transit facilities. Therefore, impacts to transit facilities would be *less than significant*.

<u>Mitigation Measure(s)</u> *None required.*

4.10-5 Impacts to bicycle and pedestrian facilities. Based on the analysis below, the impact is *less than significant*.

As part of the project's frontage improvements, the existing 12-foot-wide travel lane on westbound Virginiatown Road would be widened along the project frontage to include six-foot-wide planters, curbs and gutters, and a separated, concrete sidewalk. The proposed sidewalk would connect to the existing Virginiatown Road sidewalk, which currently ends at the site's southwestern corner. To the west of the project site, continuous sidewalks are provided except for a 300-foot section directly west of Heartwood Street. The pedestrian network would provide a safe and efficient means for residents to walk to nearby destinations, such as the neighborhood park on Costa Lane and Carlin C. Coppin Elementary School.

To the west of the project site, bike lanes are not provided on Virginiatown Road. The nearest dedicated bike route is a Class III trail located on East Road, which is a mile from the project site. The bike route is accessible using shared right-of-way with automobiles. With the existing bicycle infrastructure, bicycle trips to and from the proposed project site would be limited.

Overall, the proposed project would not disrupt or interfere with existing or planned bicycle and pedestrian facilities or create inconsistencies with adopted pedestrian or bicycle system plans, guidelines, policies, or standards. Rather, the proposed project would include improvements to the project frontage, including pedestrian network improvements. Therefore, project impacts to bicycle and pedestrian facilities would be *less than significant*.

Mitigation Measure(s) None required.

4.10-6 Impacts to emergency vehicle access. Based on the analysis below, the impact is *less than significant*.

Emergency vehicle access to the proposed project site would be provided via two access points under both Phase 1 and full project buildout. During development of the first 42 units of the project, emergency vehicle access to the site would be provided via one project driveway onto Virginiatown Road, and a separate, temporary, emergency vehicles access (EVA) connection to Virginiatown Road. Prior to issuance of the 43rd building permit, one of the access points onto Virginiatown Road would be converted to a bicycle/pedestrian facility and a second project driveway would be constructed connecting to Hungry Hollow Road. Thus, at any point during project buildout, two vehicular access points would be maintained at the project site.

The project is serviced by the Lincoln Fire Department (Station 33) at East Avenue/McBean Park Drive and by the Lincoln Police Department at 7th Street/H Street. Both departments are located less than two miles from the project site, which equates to less than a five-minute drive. Furthermore, the intersection of East

Avenue/McBean Park Drive operates with emergency vehicle preemption and the roadway network does not show any unusual intersection geometries that would require special attention.

Given that emergency vehicle access is adequately provided to the project site, impacts to emergency vehicle access would be *less than significant*.

Mitigation Measure(s) None required.

4.10-7 Construction impacts. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Construction activity associated with the proposed project would be significantly lower than the amount of traffic generated by the project at buildout. In addition, construction workers typically arrive before the morning peak hour and leave before the evening peak hours of the traditional commute time periods. Deliveries of building material (lumber, concrete, asphalt, etc.) would also normally occur outside of the traditional commute time periods. As a result, any increase in construction traffic related delay would be less than the increase in delay under Existing Plus Project Conditions. Nonetheless, because the proposed project has the potential to affect circulation along the nearby roadway network during the short-term construction period, including due to the improvements to Hungry Hollow Road and Virginiatown Road, short-term impacts related to construction could be considered *significant*.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level by requiring implementation of a construction Traffic Management Plan that will identify truck routes and any needed detour routes through posting of appropriate signage.

- 4.10-7 Prior to the commencement of construction, the project applicant shall prepare a detailed Construction Traffic Management Plan subject to review and approval by the City Department of Public Works. At a minimum, the plan shall include:
 - The number of truck trips, time, and day of street closures;
 - *Time of day of arrival and departure of trucks;*
 - *Provision of a truck circulation pattern;*
 - Identification of detour routes and signing plan for street closures, if necessary;
 - Maintain safe and efficient access routes for emergency vehicles;
 - *Manual traffic control when necessary;*
 - Proper advance warning and posted signage concerning street closures; and

• Provisions for pedestrian and bicycle safety.

A copy of the Construction Traffic Management Plan shall be submitted to local emergency response agencies and transit providers. Such agencies shall be notified at least 30 days prior to the commencement of any construction that would partially or fully obstruct roadways.

4.10-8 Impacts related to increased traffic hazards. Based on the analysis below, the impact is *less than significant*.

The proposed project would not include any new sharp curves or dangerous intersections and would not be located in the vicinity of any such roadway features. The proposed project would include a number of improvements to the adjacent roadways, such as widening Hungry Hollow Road to allow four-foot paved shoulders on either side of the roadway along the project frontage, which would help to minimize any existing traffic hazards along the roadways. In addition, the design of the on-site circulation system would not involve any features that would increase traffic hazards at the site.

As discussed above, the proposed project would cause the 12th Street/East Avenue intersection, currently operating at an acceptable LOS under Existing Conditions, to operate at unacceptable LOS. Carlin C. Coppin Elementary School is located northwest of the intersection of 12th Street/East Avenue. Due to the level of traffic at the affected intersection currently associated with the elementary school during drop-off hours, the analysis considers whether the proposed project could result in an indirect incompatible use in the area with respect to the additional traffic that would occur as a result of the project.

The elementary school generates a peak amount of traffic during the hours of drop-off (approximately 7:30 AM to 8:30 AM) and pickup (approximately 2:30 PM to 3:30 PM). The weekday AM peak hour analysis conducted for the proposed project (7:30 AM to 8:30 AM) captures the peak AM school traffic and represents the time period when project-generated traffic would interact with students walking to Carlin C. Coppin Elementary School. Impacts to transportation facilities during the AM peak hour, therefore, have been captured in Impacts 4.10-1 through 4.10-7 above. As discussed above, the proposed project would cause the 12th Street/East Avenue intersection to degrade to an unacceptable LOS D during the AM peak hour; however, Mitigation Measure 4.10-1 would require payment of the project's fair share cost towards signalization of the affected intersection or construction of the signal (subject to future reimbursement), which would improve the operations at the 12th Street/East Avenue intersection during the AM peak hour to an acceptable LOS. Therefore, effects of the proposed project, in addition to existing peak school traffic during the AM peak hour, would be less than significant.

The PM peak hour analysis conducted for the proposed project (4:30 PM to 5:30 PM), during which peak commute trips would occur, does not overlap with traffic associated

with pickup at the school. Because the PM peak hour traffic levels are typically higher than during the early afternoon, during which peak school traffic occurs, any increase in delay during the early afternoon would be less than that identified in this analysis.

Lastly, the existing pavement quality is moderate and characterized by occasional minor breaks in pavement. Project traffic is not expected to significantly degrade pavement quality to the extent that it would pose traffic hazards given the lack of heavy truck traffic associated with the project.

For the aforementioned reasons, the project would result in a *less-than-significant* impact associated with substantially increasing traffic hazards or incompatible uses.

<u>Mitigation Measure(s)</u> *None required*.

Cumulative Impacts and Mitigation Measures

As mentioned above, the cumulative traffic conditions at each of the project study intersections are based on the existing turning movements with the addition of traffic from all planned and approved projects, as well as roadway network considerations. To assess future growth of planned development in the City of Lincoln area, several sources of data were reviewed, including the 2025 Placer County TDF model and the SACOG 2035 MTP/SCS. Roadway improvements assumed under cumulative conditions include the SR 65/Whitney Ranch Interchange, the Oak Tree Lane extension to the intersection of Virginiatown Road/Hungry Hollow Road, and the extension of Ferrari Ranch Road to Oak Tree Lane.

The cumulative impacts on the transportation system are evaluated in this section based on the thresholds of significance and methodology described above. Each impact is followed by recommended mitigation to reduce the identified impacts, if needed.

4.10-9 Cumulative impacts to study intersections. Based on the analysis below and with implementation of mitigation, the project's contribution to this significant cumulative impact is *less than cumulatively considerable*.

Figure 4.10-10 and Figure 4.10-11 display the Cumulative Plus Project traffic forecasts at the study intersections. The peak hour intersection LOS under Cumulative No Project and Cumulative Plus Project Conditions are presented in Table 4.10-13.

Based on the analysis, the following four unsignalized (three all-way stop control and one side-street stop control) study intersections in the City of Lincoln are projected to operate unacceptably under both the Cumulative No Project and Cumulative Plus Project Conditions:

• Intersection #7 (7th Street/East Ave) – All Way Stop Control. This intersection would operate at LOS E during the AM peak hour and LOS F during the PM peak hour.

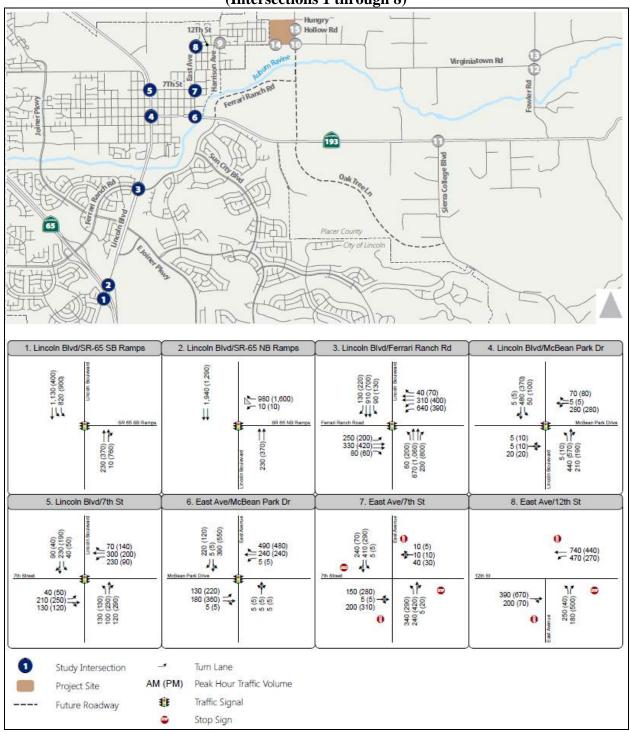


Figure 4.10-10 Peak Hour Traffic Volume and Lane Configurations – Cumulative Plus Project Conditions (Intersections 1 through 8)

Source: Fehr & Peers, 2017.

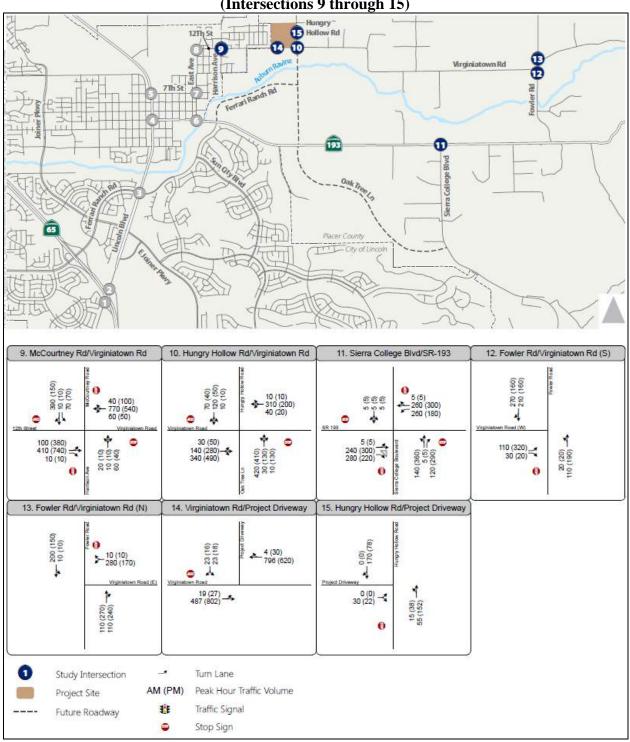


Figure 4.10-11 Peak Hour Traffic Volume and Lane Configurations – Cumulative Plus Project Conditions (Intersections 9 through 15)

Source: Fehr & Peers, 2017.

			Table 4.1									
	Peak Hour Intersection LOS – Cumulative Plus Project Conditions Cumulative No Project Conditions Cumulative No Project Conditions											
		AM Peal			ak Hour	AM Peak Hour		PM Peak Hour				
Intersection	Control	Delay ¹	LOS									
1. SR 65 SB Ramps/Lincoln Blvd	Traffic Signal	6	А	21	C	6	А	21	С			
2. SR 65 NB Ramps/Lincoln Blvd	Traffic Signal	3	А	3	А	3	А	3	А			
3. Ferrari Ranch Rd/Lincoln Blvd	Traffic Signal	28	С	33	С	29	С	34	С			
4. McBean Park Dr/Lincoln Blvd	Traffic Signal	53	D	63	Е	55	Е	66	Е			
5. 7 th St/Lincoln Blvd	Traffic Signal	21	С	34	C	21	С	34	С			
6. McBean Park Dr/East Ave	Traffic Signal	17	В	26	С	17	В	26	С			
7. 7 th St/East Ave	All Way Stop Control	<u>42</u>	E	<u>54</u>	<u>F</u>	<u>43</u>	E	<u>54</u>	<u>F</u>			
8. 12 th St/East Ave	All Way Stop Control	<u>57</u>	<u>F</u>	<u>57</u>	<u>F</u>	<u>58</u>	<u>F</u>	<u>60</u>	<u>F</u>			
9. Virginiatown Rd/McCourtney Rd	All Way Stop Control	<u>62</u>	<u>F</u>	<u>57</u>	<u>F</u>	<u>62</u>	<u>F</u>	<u>57</u>	<u>F</u>			
10. Virginiatown Rd/Hungry Hollow Rd	Side Street Stop Control	<u>>150</u> (>150)	<u>F (F)</u>									
11. SR 193/Sierra College Blvd	All Way Stop Control	15	В	29	D	15	С	29	D			
12. Virginiatown Rd/Fowler Rd (S)	Side Street Stop Control	14 (3)	B (A)	24 (10)	C (A)	14 (3)	B (A)	24 (10)	C (A)			
13. Virginiatown Rd/Fowler Rd (N)	Side Street Stop Control	17 (7)	C (A)	18 (4)	C (A)	18 (7)	C (B)	18 (4)	C (A)			
14. Virginiatown Rd/Project Driveway	Side Street Stop Control					29 (1)	D (A)	33 (1)	D (A)			
15. Hungry Hollow Rd/Project Driveway	Side Street Stop Control					9 (2)	A (A)	9 (2)	A (A)			

Notes:

1. For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS is reported for the most-delayed individual movement and for the entire intersection (shown in parentheses).

2. Bold text indicates unacceptable LOS.

Source: Fehr & Peers, 2017

- Intersection #8 (12th Street/East Ave) All Way Stop Control. This intersection would operate at LOS F during the AM peak hour and LOS F during the PM peak hour.
- Intersection #9 (Virginiatown Rd/McCourtney Rd) All Way Stop Control. This intersection would operate at LOS F during the AM peak hour and LOS F during the PM peak hour.
- Intersection #10 (Virginiatown Rd/Oak Tree Ln/Hungry Hollow Rd) Side Street Stop Control. This intersection would operate at LOS F during the AM peak hour and LOS F during the PM peak hour.

All other City of Lincoln intersections that would operate acceptably under Cumulative No Project Conditions would continue to do so under Cumulative Plus Project Conditions. In addition, all Caltrans intersections would operate acceptably under Cumulative No Project Conditions and Cumulative Plus Project Conditions.

For intersections that operate unacceptably, the City of Lincoln designates a significance threshold for projects of five seconds of incremental addition in average vehicle delay. As shown in Table 4.10-13, four intersections would operate unacceptably under cumulative conditions with or without the proposed project. Of the intersections listed above as operating unacceptably under both the Cumulative No Project and Cumulative Plus Project Conditions, the project's incremental contribution of traffic would only result in greater than five seconds of additional delay at the Virginiatown Road/Hungry Hollow Road intersections, specifically Intersection #10 Virginiatown Road/Hungry Hollow Road, would be considered *significant*.

Mitigation Measure(s)

Implementation of the following mitigation measure would improve operations at the intersection of Virginiatown Road/Hungry Hollow Road to an acceptable level (LOS B), as shown in Table 4.10-14, thus reducing the proposed project's incremental contribution to this significant cumulative impact to a *less than cumulatively significant* level. The required improvements are not currently included in the City of Lincoln's adopted PFE, and a mechanism for funding the improvements is not currently in place. The signalization improvement is within the City's draft PFE update, which is anticipated to go before City Council for consideration in the summer of 2017. As such, the following mitigation measure includes two options: 1) the applicant shall fully fund the signalization improvement and be subject to fee credits if the improvements are subsequently included in the City's PFE update; or 2) if, prior to issuance of building permits, the City's then-current PFE includes the needed improvements to Virginiatown Road/Hungry Hollow Road, the applicant shall pay the City's PFE Transportation fees, which shall represent the project's fair share.

Peak Hour Inf	Table 4.10-14 Peak Hour Intersection LOS – Cumulative Plus Project Conditions with Mitigation											
	Cumulative No Project ConditionsCumulative Plus Project with Mitigation											
		AM P Hot		PM P Hor		AM Peak PM Peak Hour Hour						
Intersection	Control	Delay ¹	LOS	Delay ¹	LOS	Delay ¹	LOS	Delay ¹	LOS			
10. Virginiatown Rd/Hungry Hollow Rd	Traffic Signal	<u>>150</u> (>150)	<u>F (F)</u>	<u>>150</u> (>150)	<u>F (F)</u>	10	В	15	В			

Notes:

1. For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches.

2. Bold text indicates unacceptable LOS.

Source: Fehr & Peers, 2017

Therefore, with implementation of the following mitigation measure, which would improve intersection operations from LOS F to LOS B, the project's incremental contribution to the significant cumulative impact would be less than cumulatively considerable.

- 4.10-9 Prior to issuance of a building permit, the project applicant shall fully fund the following improvements to the intersection of Virginiatown Road/Hungry Hollow Road:
 - Actuated-uncoordinated signalization, which is able to detect the presence of vehicles via sensors in the pavement; and
 - Adding a right-turn pocket on the eastbound approach.

The applicant shall be subject to PFE Transportation fee credits if the improvements are subsequently included in the City's updated PFE; Or

If, prior to the issuance of building permits, the City's PFE in effect at the time, includes the following improvements to the Virginiatown Road/Hungry Hollow Road intersection, then the applicant shall pay its fair share cost towards the improvements through payment of the City's PFE Transportation fee:

- Actuated-uncoordinated signalization, which is able to detect the presence of vehicles via sensors in the pavement; and
- Adding a right-turn pocket on the eastbound approach.

4.10-10 Cumulative impacts to study roadway segments. Based on the analysis below, the impact is *significant and unavoidable*.

Table 4.10-15 presents the daily traffic volumes for each roadway segment and the corresponding LOS under Cumulative Plus Project Conditions. Based on the results presented in Table 4.10-15, three study roadway segments would operate unacceptably under Cumulative No Project Conditions and continue to do so under Cumulative Plus Project Conditions. Accordingly, cumulative impacts to study roadway segments would occur with or without implementation of the proposed project.

For roadway segments that already, or are projected to, operate unacceptably, without a project, the significance threshold for projects is whether an increase in the volume to capacity ratio by 0.01 or more would occur. As shown in Table 4.10-15, the volume to capacity ratio along Virginiatown Road between Hungry Hollow Road and McCourtney Road would increase by more than 0.01, resulting in a significant impact.

Table 4.10-16 shows the roadway LOS results for SR 193 using PTSF as the analysis metric. The LOS results show that SR 193 between Sierra College Boulevard and Fowler Road would operate acceptably under Cumulative No Project Conditions and would continue to operate acceptably at LOS D or better during both the AM and PM peak hours under Cumulative Plus Project Conditions.

Based on the above, the proposed project's incremental contribution to cumulative impacts to study intersections would be *cumulatively considerable*

<u>Mitigation Measure(s)</u> None feasible.

There is no feasible mitigation to reduce this impact because of the physical constraints to widening Virginiatown Road east of McCourtney Road to City standards. Virginiatown Road east of McCourtney Road is a two-lane roadway that is bordered by existing residential subdivision development on the north, a mix of uses on the south, between McCourtney Road and the project site, and the Village 1 Specific Plan immediately south. Due to the width of the right-of-way, widening to City standards, including bike lanes and turn pockets, is not feasible. Further, the adopted General Plan Land Use and Circulation Diagram does not identify any improvements to Virginiatown Road in conjunction with growth under the General Plan through 2050 that would involve increasing its capacity by adding additional lanes. Moreover, widening is not included in the City's adopted PFE, nor is it included in the draft update to the PFE. As a result, this impact would remain *significant and unavoidable*.

Table 4.10-15 Placer County/City of Lincoln Poodway LOS						
Cumulative No Project		Cumulative Plus Project Conditions				
Туре	ADT	V/C Ratio	LOS	ADT	V/C Ratio	LOS
Two-Lane High Access Control Arterial	35,700	1.79	<u>F</u>	35,800	1.79	<u>F</u>
Five-Lane Moderate Access Control Arterial	42,100	0.94	<u>E</u>	42,400	0.94	E
Two-Lane High Access Control Arterial	12,000	0.60	А	12,100	0.60	А
Two-Lane Low Access Control Arterial	9,800	0.65	В	9,900	0.66	В
Two-Lane Low Access Control Arterial	2,300	0.15	А	2,800	0.19	А
Two-Lane Low Access Control Arterial	17,600	1.17	<u>F</u>	18,200	1.21	<u>F</u>
	TypeTwo-Lane HighAccess ControlArterialFive-LaneModerate AccessControl ArterialTwo-Lane HighAccess ControlArterialTwo-Lane LowAccess Control	TypeCumulaTypeADTTwo-Lane High Access Control35,700Arterial35,700Arterial42,100Five-Lane Moderate Access42,100Control Arterial12,000Arterial12,000Arterial9,800Arterial9,800Arterial2,300Arterial2,300Arterial17,600	Cumulative No ProconditionsTypeADTRatioTwo-Lane High Access Control35,7001.79Arterial35,7001.79Five-Lane Moderate Access42,1000.94Control Arterial12,0000.60Arterial9,8000.65Arterial9,8000.15Two-Lane Low Access Control2,3000.15ArterialTwo-Lane Low Access Control17,6001.17	Cumulative No Project ConditionsTypeADT V/C Ratio LOS Two-Lane High Access Control $35,700$ 1.79 $\underline{\mathbf{F}}$ Five-Lane Moderate Access $42,100$ 0.94 $\underline{\mathbf{E}}$ Two-Lane High Access Control Arterial $12,000$ 0.60 A Two-Lane High Access Control $12,000$ 0.60 A Two-Lane Low Access Control $9,800$ 0.65 B Two-Lane Low Access Control $2,300$ 0.15 A Two-Lane Low Access Control $17,600$ 1.17 $\underline{\mathbf{F}}$	$\begin{tabular}{ c c c c c c } \hline Cumulative No Project Conditions & Cumulative No Project Conditions & Cum Project Conditions & V/C & ADT & Ratio & LOS & ADT & Ratio & LOS & ADT $	$ \begin{array}{ c c c c c } \hline & & & & & & & & & & & & & & & & & & $

 $\overline{V/C}$ ratio = volume to capacity ratio

Values rounded to the nearest 100 vehicles.

Source: Fehr & Peers, 2017.

Table 4.10-16 State Route 193 Segment LOS – Cumulative Plus Project Conditions										
	Cumulative No Project Conditions		Cumulative Plus Project							
Study Period	Peak Dir.	Volume	PTSF	Avg. Speed	LOS	Peak Dir.	Volume	PTSF	Avg. Speed	SOL
AM	EB	348	58.3%	33.9	С	EB	349	58.3%	33.9	С
Alvi	WB	548	76.9%	31.8	D	WB	548	76.9%	31.8	D
PM	EB	631	80.2%	31.9	D	EB	632	80.3%	31.9	D
	WB	459	67.4%	32.5	С	WB	460	67.4%	32.5	С
	Study Period AM	AM EB PM EB	AM EB 348 PM EB 631	Study Period ind study AM EB 348 58.3% B 631 80.2%	Study Period id yes AM id yes EB id yes A88 id yes A88 id yes A83 id yes A31 id yes A1 id yes A1	Study Period ind year particular (Note: Study) particular (Note: Study)	Segment LOS – Cumulative Plus Project Cumulative No Project Cumulative No Project Conditions Study Period id id	Study Period Study Period EB 348 58.3% 33.9 C EB 349 AM EB 631 80.2% 31.9 D EB 632	3 Segment LOS – Cumulative Plus Project Conditions Cumulative No Project Conditions Cumulative Plus Study Period id yes AM EB 348 58.3% SO 1 id yes A id yes A Study B Study A id yes A SO 1 SO 1 id yes A id yes A id yes A id yes A id yes A id yes A id yes	3 Segment LOS – Cumulative Plus Project Conditions Cumulative No Project Conditions Cumulative Plus Project Study Period id id

 $\overline{WB} =$ westbound;

EB = eastbound;

1. Refer to previous section for description of facility types and analysis methods.

Source: Fehr & Peers, 2017.

4.10-11 Cumulative impacts to freeway facilities. Based on the analysis below, the project's contribution to this significant cumulative impact is *less than cumulatively considerable*.

Table 4.10-17 presents the AM and PM peak hour traffic densities for each freeway segment and the corresponding LOS under Cumulative Plus Project Conditions. All study freeway segments are forecasted to operate unacceptably at LOS F under Cumulative No Project Conditions and would continue to do so under Cumulative Plus Project Conditions, except for northbound SR 65 from Twelve Bridges Drive to Lincoln Boulevard, which is forecast to operate acceptably at LOS E during the AM peak hour under both Cumulative No Project and Cumulative Plus Project Conditions. Accordingly, cumulative impacts to freeway facilities would occur with or without implementation of the proposed project.

For freeway facilities operating at an unacceptable LOS without a project, the significance threshold for projects is whether an increase in the traffic volume by 60 or more vehicles would occur. A 60-vehicle increase to a four-lane freeway corresponds to an approximately 0.5-increase in density. As shown in Table 4.10-17, the proposed project would not result in an increase in the density along SR 65 and, thus, would not add more than 60 vehicles to a freeway facility under Cumulative Plus Project Conditions. Therefore, the proposed project's incremental contribution to the significant cumulative impact to freeway facilities would be *less than cumulatively considerable*.

<u>Mitigation Measure(s)</u> *None required*.

4.10-12 Cumulative impacts to transit facilities. Based on the analysis below, the impact is *less than significant*.

Expansion of the current transit service operated by Lincoln Transit Services will be assessed based on future demand and funding. The project is expected to generate little demand on the transit provider and the routes that could serve the project have capacity to accommodate project-generated ridership. There is expected to be a regional demand for increased transit as identified in the *Village 1 Specific Plan*, which states that bus facilities are anticipated to occur along Oak Tree Lane and near proposed school sites. Additionally, Placer County Transit offers paratransit Dial-A-Ride (curb-to-curb) service for persons with disabilities that are unable to use the fixed route service. Given that project access to transit would be improved under cumulative conditions and would not interfere with transit facilities, impacts to transit would be *less than significant*.

Mitigation Measure(s) None required.

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Table 4.10-17										
	Peak Hour Freeway LOS – Cumulative Plus Project Conditions Cumulative Plus Project Conditions Cumulative Plus Project Conditions					ct				
			AM Peak	Hour	PM Peak	k Hour	AM Peak	Hour	PM Peak	Hour
Freeway	Location	Туре	Density ¹	LOS ²						
	Whitney Ranch Pkwy to Twelve Bridges Dr	Basic	1.04	F	1.18	F	1.04	F	1.18	F
NB SR 65	Twelve Bridges Dr to Lincoln Blvd	Weave ³	-	Е	-	F	-	Е	-	F
SB SR 65	Lincoln Blvd to Twelve Bridges Dr	Weave ³	-	F	-	F	-	F	-	F
SD SK 05	Twelve Bridges Dr to Placer Pkwy	Basic	1.17	F	1.16	F	1.17	F	1.16	F
 <u>Notes</u>: 1. Density estimates are rounded to the nearest second. Corresponding LOS is based on first significant digit using HCM thresholds. 2. Bold, underlined text indicates unacceptable LOS. 3. Weave sections analyzed using the Liesch Method. Density is not reported. 										

Source: Fehr & Peers, 2017

4.10-13 Cumulative impacts to bicycle and pedestrian facilities. Based on the analysis below, the impact is *less than significant*.

The Lincoln Meadows project will construct pedestrian facilities both within the project development and along its project frontage on the north side of Virginiatown Road. To the west of the Lincoln Meadows Project, continuous sidewalks are provided except for a 300 foot section directly west of Heartwood Street.

The Lincoln Meadows project will improve the project frontage along Virginiatown Road to provide curb and gutter in addition to the existing 12-foot travel lane. Per the City of Lincoln 2012 Bicycle Transportation Plan Update, Class II bicycle lanes are planned along Virginiatown Road between East Avenue and Hungry Hollow Road and along Hungry Hollow Road and Oak Tree Lane. These bicycle facility improvements will help connect the project to the existing bicycle network.

Given the above improvements that the project would implement, impacts to bicycle and pedestrian facilities would be *less than significant*.

Mitigation Measure(s) None required.

4.10-14 Cumulative impacts to emergency vehicle access. Based on the analysis below, the impact is *less than significant*.

Emergency vehicle access to the Lincoln Meadows Project would be provided via three project driveways onto two collector roadways, including one driveway onto Virginiatown Road reserved only for emergency vehicle access (EVA). The driveway onto Virginiatown Road for EVA purposes is temporary until such time as the project roadway connection to Hungry Hollow road is constructed. The two collector roadways, Virginiatown Road and Hungry Hollow Road, provide four points of connection to the cumulative regional transportation network (i.e. eastbound and westbound on Virginiatown Road, northbound on Hungry Hollow Road, and southbound on Oak Tree Lane, funding for which is included in the City's PFE). Therefore, emergency vehicles would have multiple routes to access the project. This impact would be *less than significant*.

Mitigation Measure(s) None required.

4.10-15 Cumulative construction impacts. Based on the analysis below, the impact is *less than significant*.

Cumulative construction activity of the Lincoln Meadows Project is not expected to cause significant traffic delay. Cumulative projects are not expected to be constructed simultaneously, and construction workers typically arrive before the morning peak hour and leave before the evening peak hours of the traditional commute time periods.

Deliveries of building material (lumber, concrete, asphalt, etc.) would also normally occur outside of the traditional commute time periods. Even if construction workers arrived/departed during peak commute hours, the level of traffic would be well below the project's operational traffic. Therefore, this impact would be *less than significant*.

Mitigation Measure(s) None required. 5. STATUTORILY REQUIRED SECTIONS

STATUTORILY REQUIRED SECTIONS

5.1 INTRODUCTION

The Statutorily Required Sections chapter of the EIR includes brief discussions regarding those topics that are required to be included in an EIR, pursuant to *CEQA Guidelines*, Section 15126.2. The chapter includes a discussion of the proposed project's potential to induce economic or population growth, as well as an overview of the cumulative setting analyzed in each of the EIR's technical chapters. In addition, the chapter includes a discussion of energy impacts in accordance with Appendix F of the CEQA Guidelines and significant irreversible environmental changes that could be caused by the proposed project, pursuant to CEQA Guidelines Section.

5.2 GROWTH-INDUCING IMPACTS

An EIR must discuss the ways in which a proposed project could foster economic or population growth in the vicinity of the project and how that growth would, in turn, affect the surrounding environment (see *CEQA Guidelines*, Section 15126.2[d]). In addition, the EIR must discuss the characteristics of the project that could encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. Growth can be induced in a number of ways, including through the elimination of obstacles to growth, the stimulation of economic activity within the region, or the establishment of policies or other precedents that directly or indirectly encourage additional growth. Under CEQA, this growth is not to be considered necessarily detrimental, beneficial, or of significant consequence. Induced growth would be considered a significant impact if it can be demonstrated that the potential growth, directly or indirectly, significantly affects the environment. The discussion of the removal of obstacles to growth relates directly to the removal of infrastructure limitations or regulatory constraints that could result in growth unforeseen at the time of project approval.

In general, a project could foster spatial, economic, or population growth in a geographic area if the project removes an impediment to growth (e.g., the establishment of an essential public service, the provision of new access to an area, or a change in zoning or General Plan amendment approval), or economic expansion or growth occurs in an area in response to the project (e.g., changes in revenue base, employment expansion). A number of issues must be considered when assessing the growth-inducing effects of development plans, such as the proposed project, including the following:

Elimination of Obstacles to Growth: The extent to which a proposed project removes infrastructure limitations or provides infrastructure capacity, or removes regulatory constraints that could result in growth unforeseen at the time of project approval; and

Economic Effects: The extent to which development of the proposed project could cause increased activity in the local or regional economy. Economic effects can include such

effects as the multiplier effect. A "multiplier" is an economic term used to describe interrelationships among various sectors of the economy. The multiplier effect provides a quantitative description of the direct employment effect of a project, as well as indirect and induced employment growth. The multiplier effect acknowledges that the employment and population growth at a project site would not be the complete picture of growth caused by that project.

Elimination of Obstacles to Growth

Growth-inducing impacts associated with the proposed project would be considered to be any effects of the project allowing for additional growth or increases in population beyond that proposed by the project or anticipated in the 2008 City of Lincoln General Plan. The elimination of either physical or regulatory obstacles to growth is considered to be a growth-inducing effect. A physical obstacle to growth typically involves the lack of public service infrastructure. The extension of public service infrastructure, including roadways, water mains, and sewer lines, into areas that are not currently provided with these services, would be expected to support new development. Similarly, the elimination or change to a regulatory obstacle, including existing growth and development policies, could result in new growth.

The proposed project site is located within the City of Lincoln Sphere of Influence (SOI), within the Village 2 planning area of the 2008 City of Lincoln General Plan. Implementation of the project would require City of Lincoln approval of an annexation resolution authorizing submittal of an annexation application to Placer County LAFCo for the project site. In addition, the project includes a request to amend the City of Lincoln General Plan Land Use Diagram to remove the project site from Village 2 and re-designate 7.95 acres of the project site as Open Space and 35.92 acres as Low Density Residential (LDR). The project site would be subdivided and developed with 144 one- and two-story single-family homes, two landscape lots, a 7.67-acre wetland open space lot with two stormwater detention basins, and a 0.28-acre open space lot. All infrastructure required to support the proposed development would be provided.

The General Plan EIR anticipates buildout of the General Plan to result in 16,110 additional Low Density residential units and an overall total increase in new residents of 101,000. The City of Lincoln's 2013-2021 Housing Element estimates that the average persons per household in the City is 2.59. Using the citywide average, the proposed project's 144 units would generate approximately 373 residents (144 x 2.59 = 372.96). Based on the above, the proposed project would represent 0.89 percent of the total number of Low Density residential units and 0.37 percent of the total estimated increase in new residents. Thus, while the proposed project would change the land use designation for the site, the project would not be considered to induce substantial population growth in the area. In addition, the project site is adjacent to the existing Lincoln Highlands residential community and would serve as a logical extension of this community given the site's location within Village 2.

The proposed infrastructure for the project has been sized to accommodate the project's needs, as well as potential future development of the 40-acre property to the north, which is also within Village 2. Therefore, the infrastructure would not serve areas not previously anticipated for development within the Lincoln General Plan EIR. Per CEQA Guidelines Section 15130, the discussion of cumulative impacts in an EIR can rely on discussions of regional or areawide conditions from a general plan and general plan EIR. This growth-inducement discussion, therefore, relies upon the Lincoln General Plan EIR. This EIR has already considered the consequences of regional growth.

Physical environmental impacts associated with areawide development of new homes, made possible by constructing sufficiently sized infrastructure, have been evaluated in the Lincoln General Plan EIR. For example, the traffic, noise, and air quality impacts resulting from buildout of the Lincoln General Plan have been evaluated within the Lincoln General Plan EIR; and mitigation measures have been incorporated to reduce impacts to the greatest extent feasible. As a result, the proposed project would be considered to have a *less-than-significant* impact related to elimination of obstacles of growth.

Economic Effects

Implementation of the project would increase economic activity through the short-term creation of jobs during construction. However, the existing number of residents in the City of Lincoln and other nearby areas who are employed in the construction industry would likely be sufficient to meet the demand for construction workers that would be generated by the project. Because construction workers can be expected to come from an ample available construction labor pool in the project area, substantial population growth or increases in housing demand in the region as a result of such jobs is not anticipated.

As noted above, the multiplier effect refers to the secondary economic effects caused by spending associated with a project's increase in employment or population growth. Accordingly, the proposed project could indirectly generate local employment as a result of the multiplier effect due to the project's increase in number of residents in the area. Dollars spent on goods and services in the project area could increase growth pressures in the region; however, given the existing urbanization of the rest of the City of Lincoln, most goods and services are already available and would be expanded in response to regional growth, not solely as a result of the proposed project. Therefore, the proposed project would not be considered to substantially increase activity in the local or regional economy.

5.3 CUMULATIVE IMPACTS

CEQA Guidelines, Section 15130 requires that an EIR discuss the cumulative and long-term effects of the proposed project that adversely affect the environment. "Cumulative impacts" are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (*CEQA Guidelines*, Section 15355; see also Pub. Resources Code, Section 21083, subd. [b]). Stated another way, "[...] a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated

in the EIR together with other projects causing related impacts" (CEQA Guidelines Section 15130, subd. [a][1]).

"[I]ndividual effects may be changes resulting from a single project or a number of separate projects" (*CEQA Guidelines*, Section 15355, subd. [a]). "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (*CEQA Guidelines*, Section 15355, subd. [b]).

The need for cumulative impact assessment reflects the fact that, although a project may cause an "individually limited" or "individually minor" incremental impact that, by itself, is not significant, the increment may be "cumulatively considerable," and, thus, significant when viewed together with environmental changes anticipated from past, present, and probable future projects (*CEQA Guidelines*, Section 15064, subd. [h(1)], Section 15065, subd. [c], and Section 15355, subd. [b]). Accordingly, particular impacts may be less than significant on a project-specific basis, but significant on a cumulative basis if their small incremental contribution, viewed against the larger backdrop, is cumulatively considerable. However, *CEQA Guidelines*, Section 15064, Subdivision (h)(5) states, "[...] the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable." Therefore, even where cumulative impacts are significant, any level of incremental contribution is not necessarily deemed cumulatively considerable.

Section 15130(b) of *CEQA Guidelines* indicates that the level of detail of the cumulative analysis need not be as great as for the project impact analyses, but that analysis should reflect the severity of the impacts and their likelihood of occurrence, and that the analysis should be focused, practical, and reasonable. To be adequate, a discussion of cumulative effects must include the following elements:

- (1) Either (a) a list of past, present and probable future projects, including, if necessary, those outside the agency's control, or (b) a summary of projections contained in an adopted general plan or related planning document, or in a prior certified EIR, which described or evaluated regional or area-wide conditions contributing to the cumulative impact, provide that such documents are reference and made available for public inspection at a specified location;
- (2) A summary of the individual projects' environmental effects, with specific reference to additional information and stating where such information is available; and
- (3) A reasonable analysis of all of the relevant projects' cumulative impacts, with an examination of reasonable, feasible options for mitigating or avoiding the project's contribution to such effects (Section 15130[b]).

Section 15130(a)(3) states that an EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable, and thus not significant, if a project is required to implement or fund the project's fair share of a mitigation measure or measures designed to alleviate the cumulative impact.

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Cumulative Setting

The lead agency should define the relevant geographic area of inquiry for each impact category (id., Section 15130, subd. [b][3]), and should then identify the universe of "past, present, and probable future projects producing related or cumulative impacts" relevant to the various categories, either through the preparation of a "list" of such projects or through the use of "a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact" (id., subd. [b][1]).

The geographic setting of the majority of cumulative analyses within this EIR consists of the City of Lincoln, unless otherwise noted throughout this EIR. For example, the geographic setting for the cumulative air quality analysis is the Sacramento Valley Air Basin. Another example would be the analysis of greenhouse gas emissions. Although the geographical context for global climate change is the Earth, for analysis purposes under CEQA, and due to the regulatory context pertaining to GHG emissions and global climate change applicable to the proposed project, the geographical context for global climate change in this EIR is limited to the State of California.

With respect to cumulative growth assumptions within the geographic setting, the majority of cumulative analyses within this EIR uses a combined approach, whereby the cumulative setting includes buildout of the City of Lincoln General Plan per buildout projections in combination with present and probably future projects within the City of Lincoln SOI. The present and probable future projects assumed for the analyses within this EIR include the following:

- Lincoln Villages 1, 5, and 7;
- Placer Ranch;
- SUD-B (Special Use District characterized by proximity to the Lincoln Regional Airport);
- Independence at Lincoln; and
- Amoruso Ranch.

Cumulative Impacts

Cumulative impacts are analyzed in each of the technical chapters of this EIR (Chapters 4.1 through 4.10). The proposed project would contribute to cumulative impacts in Air Quality and Noise, but mitigation measures have been identified in this EIR that would reduce the project's contribution to levels that would not be cumulatively considerable.¹ However, the proposed project would contribute to a significant and unavoidable cumulative impact related to Transportation and Circulation.

¹ Less than cumulative considerable means that the incremental effects of an individual project would not be considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (CEQA Guidelines Section 15064[h][1]).

5.4 ENERGY CONSERVATION

Appendix F of the CEQA Guidelines requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. The goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include:

- (1) Decreasing overall per capita energy consumption;
- (2) Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
- (3) Increasing reliance on renewable energy sources.

The main forms of available energy supply are electricity, natural gas, and oil. A description of the 2016 California Green Building Standards Code (CBSC), with which the proposed project would be required to comply, as well as discussions regarding the proposed project's potential effects related to each form of energy supply during construction and operations is provided below.

California Green Building Standards Code

The 2016 California Green Building Standards Code, otherwise known as the CALGreen Code (CCR Title 24, Part 11), became effective January 1, 2017. The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices. The provisions of the code apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout California.

Building Energy Efficiency Standards

The 2016 Building Energy Efficiency Standards is a portion of the CBSC, which expands upon energy efficiency measures from the 2013 Building Energy Efficiency Standards resulting in a 28 percent reduction in energy consumption from the 2013 standards for residential structures. Energy reductions relative to previous Building Energy Efficiency Standards would be achieved through various regulations including requirements for the use of high efficacy lighting, improved water heating system efficiency, and high performance attics and walls.

Construction Energy Use

Construction of the proposed project would result in a temporary increase in energy consumption in the area. For analysis purposes, construction of the proposed project is assumed to commence in April of 2018 and would occur over approximately four years. As discussed in Chapter 4.2, Air Quality and Greenhouse Gas Emissions, of this EIR, operation of construction equipment would occur at different locations on the project site, rather than a single location. In addition, all construction equipment and operation thereof would be regulated per the California Air Resources Board (CARB) In-Use Off-Road Diesel Vehicle Regulation, which includes measures to reduce emissions from vehicles by subjecting fleet owners to retrofit or accelerated replacement/repower requirements, imposing idling limitations on owners, operators, renters, or lessees of off-road diesel vehicles. Project construction would also be required to comply with all applicable Placer County Air Pollution Control District (PCAPCD) rules and regulations, such as Rule 218 related to architectural coatings and Rule 228 related to fugitive dust. As a result, construction equipment operating at the project site would occur over a relatively short duration in comparison to the operational lifetime of the proposed project, and would operate intermittently over the construction period for the project.

The CARB has recently prepared the *2017 Climate Change Scoping Plan Update* (2017 Scoping Plan),² which builds upon previous efforts to reduce GHG emissions and is designed to continue to shift the California economy away from dependence on fossil fuels. Appendix B of the 2017 Scoping Plan includes examples of local actions (municipal code changes, zoning changes, policy directions, and mitigation measures) that would support the State's climate goals. The examples provided include, but are not limited to, enforcing idling time restrictions for construction vehicles, utilizing existing grid power for electric energy rather than operating temporary gasoline/diesel-powered generators, and increasing use of electric and renewable fuel-powered construction equipment. The regulations described above that the proposed project must comply with would be consistent with the intention of the 2017 Scoping Plan and the recommended actions included in Appendix B of the 2017 Scoping Plan.

Nonetheless, construction of the proposed project would involve on-site energy demand and consumption related to use of oil in the form of gasoline and diesel fuel for construction worker vehicle trips, hauling and materials delivery truck trips, and operation of off-road construction equipment. In addition, diesel-fueled portable generators may be necessary to provide additional electricity demands for temporary on-site lighting, welding, and for supplying energy to areas of the site where energy supply cannot be met via a hookup to the existing electricity grid. Construction activities would be limited to the hours of 7:00 AM and 7:00 PM on Mondays through Fridays, per the City's Public Facilities Improvement Standards.

Electricity Demand During Construction

Typically, at construction sites, electricity from the existing grid is used to power portable and temporary lights or office trailers. Because grid electricity would be utilized primarily for steady sources such as lighting, not sudden, intermittent sources such as welding or other hand-held tools, the increase in electricity usage at the site during construction would not be expected to cause any substantial peaks in demand. However, an increase in the base demand for electricity in the area would increase. Overall, construction of the project would be over a relatively short duration in comparison to the operational lifetime of the proposed project and would occur intermittently throughout the buildout period of the project. As the site develops, operational electricity demand would be much greater than construction, and is discussed further below. It should be noted that standards or regulations specific to construction-related electricity usage do not currently exist.

² California Air Resources Board. *The 2017 Climate Change Scoping Plan Update*. January 20, 2017.

Pacific Gas and Electric Company (PG&E) currently supplies electricity to the area and would supply electricity to the project site, including during construction. Construction of the proposed project, which would result in temporary increases in electricity demand, would not cause a permanent or substantial increase in demand that would exceed demand projections for the area or such that the existing PG&E supplies or infrastructure could not handle the increase. Therefore, project construction would not result in any significant impacts on local or regional electricity supplies, the need for additional capacity, or on peak or base period electricity demands. As such, the temporary increase in electricity due to project construction activities would not be considered an inefficient, wasteful, and unnecessary consumption of energy, and significant adverse impacts on electricity resources would not occur.

Oil Demand During Construction

As discussed in Chapter 4.2, Air Quality and Greenhouse Gas Emissions, of this EIR, the construction and operation of the proposed project was modeled with the California Emissions Estimator Model (CalEEMod). Based on CalEEMod results for the proposed project, construction is anticipated to generate a maximum of approximately 194 worker, delivery, and hauling vehicle trips during the peak construction period (see Appendix D). Worker vehicle trips are assumed to use gasoline and delivery and hauling trucks are assumed to use diesel fuel. Diesel fuel would also be used to power the construction and off-road equipment necessary for construction activities, including rubber tired dozers, tractors, excavators, cranes, and other types of equipment. In addition, diesel-fueled portable generators may be used where electricity from the grid cannot be provided or for where more immediate electricity is needed such as for welding or other hand tools. Overall, construction equipment operating at the project site would occur over a relatively short duration (estimated around four years) in comparison to the operational lifetime of the proposed project and would be intermittent over the period of construction for the project. Operational oil demand would be much greater than construction oil demand, and is discussed further below.

A number of federal, State, and local standards and regulations exist that require improvements in vehicle efficiency, fuel economy, cleaner-burning engines, and emissions reductions. For example, CARB has adopted the In-Use Off-Road Diesel Vehicle Regulation discussed above. The regulation would subsequently help to improve fuel efficiency and reduce GHG emissions. Any licensed contractor for the project and equipment would have to be in compliance with all applicable regulations, such as the in-use, off-road, heavy-duty vehicle regulation. Thus, the proposed project would comply with existing standards related to construction fuel efficiency. Technological innovations and more stringent standards are being researched, such as multifunction equipment, hybrid equipment, or other design changes, which could help to reduce demand on oil and emissions associated with construction.

Overall, the temporary increase in gasoline and diesel consumption due to project construction activities would not be an inefficient, wasteful, and unnecessary consumption of energy, and significant adverse impacts on oil resources would not occur.

Conclusion

Construction of the proposed project would result in a temporary increase in demand for energy resources. However, the temporary increase would not result in a significant increase in peak or base demands or require additional capacity from local or regional energy supplies. In addition, the proposed project would be required to comply with all applicable regulations related to energy conservation and fuel efficiency, which would help to reduce the temporary increase in demand. As such, the project would not result in an inefficient, wasteful, and unnecessary consumption of energy. Therefore, the proposed project would result in a less-than-significant impact on energy resources during construction.

Operational Energy Demand

In order to ensure energy implications are considered in project decisions, Appendix F of CEQA Guidelines requires a discussion of the potential energy impacts of a project, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. Appendix F identifies several potential sources of energy conservation impacts, which are listed as follows and discussed in further detail below, with the exception of the project's construction-related energy requirements and energy use efficiencies, which are discussed above:

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal.
- The effects of the project on local and regional energy supplies and on requirements for additional capacity.
- The effects of the project on peak and base period demands for electricity and other forms of energy.
- The degree to which the project complies with existing energy standards.
- The effects of the project on energy resources.
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

Building Energy

Project operations would be typical of residential uses, requiring electricity and natural gas for interior and exterior building lighting, heating, ventilation, and air conditioning (HVAC), electronic equipment, appliances, and more. In addition, maintenance activities during operations, such as landscape maintenance, would involve the use of electric or fueled equipment. The proposed project site is located adjacent to other existing development to the west that are currently supplied electricity and natural gas services by PG&E. The project site would connect to existing PG&E utility lines in the project vicinity. PG&E's current energy supplies consist of 28 percent natural gas, 22 percent nuclear, 18 percent market purchases, 10 percent large hydroelectric facilities, and 22 percent renewables. More than half of PG&E's power is from clean or no

emissions sources such as nuclear, large hydroelectric facilities, and renewables. As a result, PG&E is ranked one of the three cleanest large power producers in the country.³

All buildings within the State of California are required to comply with the mandatory standards of the current CALGreen Code, including compliance with the California Building Energy Efficiency Standards Code. The 2016 Building Energy Efficiency Standards focus on several key areas to improve energy efficiency, including requirements for high-performance roof/ceiling insulation and high-efficiency heating and air-conditioning equipment. The proposed project's compliance with the California Building Energy Efficiency Standards Code and CALGreen Code would be verified as part of the City's building approval review process. Compliance with the CALGreen Code and California Building Energy Efficiency Standards Code would help to reduce the proposed project's overall consumption of energy.

According to the CalEEMod, at full buildout, the project could be expected to result in an electricity demand of 1,044,700 kilowatt-hours (kWh) per year or 1.04 gigawatt-hours (GWh) per year. According to the California Energy Consumption Data Management System, in 2015, Placer County reported total electricity consumption for residential uses of 1,382.36 million kWh (GWh).⁴ Therefore, the proposed project would result in a 0.075 percent increase in the current electricity consumption for Placer County. In addition, according to the CalEEMod results for the proposed project, at full buildout, the project could be expected to result in consumption of natural gas of approximately 34,248.4 therms per year. According to the California Energy Consumption Data Management System, in 2015, Placer County reported total gas consumption for residential uses of 53.36 million therms.⁵ Therefore, the proposed project would result in a minor 0.064 percent increase in the current gas consumption for Placer County. The aforementioned energy consumption would be related to base period demands, which applies to the total quantity of energy over a billing period. Furthermore, with a 2015 population of 366,280,6 Placer County residents consumed approximately 145.68 therms per year per resident (53.36 million therms per year / 366,280 = 145.68 therms per year/resident). The proposed project would result in an estimated natural gas usage rate of 91.8 therms per year (34,3248.2 therms per year / 373 residents = 91.8 therms per year/resident). Therefore, the proposed project would result in a natural gas consumption rate approximately 37 percent lower than the Placer County average.

Furthermore, the City's General Plan includes guidance and regulation related to the conservation of energy resources. Specifically, Goal OSC-3 in the General Plan is intended to encourage energy conservation in new and existing developments. Per Policy OSC-3.1, the City requires the use of energy conservation features in new construction and renovation in accordance with State law. Such features may include use of recycled, renewable, and reused materials, efficient lighting and

³ Pacific Gas & Electric Company, Tim Fitzpatrick, Chief Communications Officer. PG&E Cuts Carbon Emissions with Clean Energy. January 30, 2015. Available at: http://www.pgecurrents.com/2015/01/30/pge-cuts-carbonemissions-with-clean-energy/. Accessed March 10, 2015.

⁴ California Energy Consumption Data Management System. *Electricity Consumption by County*. Available at: http://ecdms.energy.ca.gov/elecbycounty.aspx. Accessed on December 29, 2016.

⁵ California Energy Consumption Data Management System. *Gas Consumption by County*. Available at: http://ecdms.energy.ca.gov/gasbycounty.aspx. Accessed on December 29, 2016.

⁶ United States Census Bureau. *American Fact Finder*. Available at https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml?src=bkmk. Accessed June 2017.

power sources, and other green building techniques. In addition, Policy OSC-3.4 guides the City to promote voluntary participation in incentive programs to increase the use of solar photovoltaic systems in new and existing residential, commercial, institutional and public buildings. The goals and policies in the General Plan would help to further reduce energy demand associated with the proposed project.

Given that the proposed project would comply with current CALGreen Code, as well as all goals and policies in the City's General Plan related to energy efficiency, the proposed residential buildings would not be considered to consume energy resources in a wasteful manner, and would not substantially increase the overall energy demand associated with the City of Lincoln or Placer County.

Transportation Energy

The annual VMT at full buildout of the proposed project is anticipated to be approximately 2,101,981. The average fuel economy in miles per gallon (mpg) for the U.S. car (24.9 mpg) and light truck (18.5 mpg) fleet, which each make up 50 percent of new light vehicle sales in the U.S., was obtained from the *Transportation Energy Data Book*.⁷ Using the aforementioned data, the overall average fuel economy of the U.S. vehicle fleet was calculated to be 21.7 mpg. Using 21.7 mpg, the proposed project would be expected to result in the consumption of approximately 44.23 barrels of gasoline per week.⁸ California inventories of gasoline averaged 10.6 million barrels per week in 2016.⁹ Based on the aforementioned data, the proposed project at full buildout would be expected to result in an increased demand of a maximum of approximately 0.0004 percent of the State's current inventory of gasoline.

California leads the nation in registered alternatively-fueled and hybrid vehicles. In addition, Statespecific regulations encourage fuel efficiency and reduction of dependence on oil. Improvements in vehicle efficiency and fuel economy standards help to reduce consumption of gasoline and reduce the State's dependence on petroleum products. The proposed project would be required to comply with all applicable regulations associated with vehicle efficiency and fuel economy.

Conclusion

As discussed above, the proposed project operations would involve an increase in energy consumption. However, the proposed project would comply with all applicable standards and regulations regarding energy conservation and fuel efficiency, which would ensure that the future

⁷ Oak Ridge National Laboratory. *Transportation Energy Data Book: Edition 33*. July 2014.

⁸ The Oak Ridge National Laboratory (ORNL) is the largest science and energy laboratory within the US Department of Energy. The Laboratory conducts scientific studies of energy, including transportation related energy consumption. Using the ORNL-provided national mpg estimate of 21.7 mpg, and the assumed daily vehicle miles travelled associated with operation of the project (5,758.85 miles per day), operation of the proposed project is anticipated to consume 265.38 gallons of gasoline per day. Each barrel of oil contains 42 gallons; thus, operation of the proposed project is anticipated to result in the consumption of 44.23 barrels of oil per week.

⁹ California Energy Commission. *Petroleum Watch*. February 2015. Available at: http://www.energy.ca.gov/almanac/petroleum_data/petroleum_watch/2017_Petroleum_Watch/. Accessed March 2016.

uses would be designed to be energy efficient to the maximum extent practicable. Compliance with applicable standards and project design is anticipated to ensure that operation of the proposed project would result in a natural gas consumption rate below the average for Placer County residents. Accordingly, the proposed project would not be considered to result in a wasteful, inefficient, or unnecessary usage of energy, and impacts related to operational energy would be considered less than significant.

5.5 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

The State CEQA Guidelines mandate that an EIR address any significant irreversible environmental changes that would result if the proposed project were implemented (CEQA Guidelines, Section 15126.2[c]). An impact would fall into this category if any of the following would occur:

- The project would involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of a project would generally commit future generations to similar uses (e.g., a highway provides access to a previously remote area);
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing of the proposed consumption of resources is not justified (e.g., the project involves a wasteful use of energy).

The proposed project would include single-family residential development, and, thus, would result in a commitment of energy resources associated with every day activities and long-term maintenance of the proposed homes (e.g., heating and cooling, landscape maintenance, repairs, renovations, etc.). A portion of the energy demand required of the project would be supplied by non-renewable resources such as fossil fuels. Energy demands associated with operation of the proposed project is discussed in greater detail above. Development would not be expected to involve an unusual commitment of nonrenewable resources, including energy resources, nor would it be expected to consume such resources in a wasteful manner.

However, the proposed project would likely result in, or contribute to, the following irreversible environmental changes:

- Conversion of currently undeveloped land to urban land uses;
- Irreversible consumption of goods and services associated with the future development; and
- Irreversible consumption of energy and natural resources associated with the future population.

5.6 SIGNIFICANT AND UNAVOIDABLE IMPACTS

According to the CEQA Guidelines Section 15126.2(b), an EIR must include a description of impacts identified as significant and unavoidable, should the proposed action be implemented. When the determination is made that either mitigation is not feasible or only partial mitigation is

feasible, such that the impact is not reduced to a less-than-significant level, such impacts would be considered significant and unavoidable. This section identifies significant impacts that could not be eliminated or reduced to a less-than-significant level by mitigation measures imposed by the City. The final determination of the significance of impacts and the feasibility of mitigation measures would be made by City Council as part of the City's certification action.

Implementation of the proposed project would result in the following significant and unavoidable impact that cannot be mitigated to a less-than-significant level:

- Impact 4.10-10: Cumulative impacts to the following study roadway segment under Cumulative Plus Project Conditions.
 - Virginiatown Road between Hungry Hollow Road and McCourtney Road.

As explained in Impact 4.10-10 in the Transportation and Circulation chapter, due to economic, legal, social, technological, or other considerations, widening of Virginiatown Road to alleviate the project impact is not feasible. As such, the impact was determined to remain significant and unavoidable.

6. GENERAL PLAN POLICY CONSISTENCY

GENERAL PLAN POLICY CONSISTENCY

6.1 INTRODUCTION

This chapter is provided for informational purposes and provides an analysis of the proposed project's consistency with the City of Lincoln General Plan goals and policies to identify any potential conflicts that could result in a physical impact on the environment. It should be noted that while City staff has done its best to ascertain consistency, the City Council makes the ultimate decision regarding consistency with the General Plan.

6.2 CONSISTENCY ANALYSES

Applicable goals and policies from the City of Lincoln General Plan that are relevant to the proposed project are listed below, followed by a consistency analysis.

Aesthetics

The following applicable goals and policies related to visual resources are from the Land Use and Community Design Element of the City's General Plan.

- Goal OSC-1 To designate, protect, and encourage natural resources, open space, and recreation lands in the city, protect and enhance a significant system of interconnected natural habitat areas, and provide opportunities for recreation activities to meet citizen needs.
 - Policy OSC-1.3 Creation of Buffers. In new development areas, the City shall encourage the use of open space or recreational buffers between incompatible land uses.
- Goal LU-9 To ensure high quality appearance and harmony between existing and new uses, while avoiding repetitive style, height, and mass.
 - Policy LU-9.3 Spatial Attributes. The City shall promote development that creates and enhances positive spatial attributes of major public streets, open spaces, cityscape and mountain sight lines and important "gateways" into the city.
 - Policy LU-9.7 The City shall encourage development that is visually and functionally compatible with the surrounding neighborhoods by:

- Maintaining a height and density of development that is compatible with adjacent developed neighborhoods; and
- Accenting entrances to new neighborhoods with varied landscaping, hardscaping, and signage treatment.
- Policy LU-9.8 Integrate Natural Features. The City shall emphasize Lincoln's natural features as the visual framework for new development and redevelopment.
- Goal LU-11 To encourage site design that is sensitive to residents' and businesses' needs for privacy, security, and buffering from other uses and activities.
 - Policy LU-11.3 Control of Light and Glare. The City shall require that all outdoor light fixtures, including street lighting, externally illuminated signs, advertising displays, and billboards, use low-energy, shielded light fixtures that direct light downward (i.e., lighting shall not emit higher than a horizontal level). Up-lighting of architectural features or landscaping can be allowed in compliance with the California Title 24 Energy Standards (as amended) and based on City design review. Additionally, the City shall continue to improve and maintain proper lighting in park facilities and fields without undue nuisance light and glare spillage on adjoining residential areas. Where public safety would not be compromised, the City shall encourage the use of low intensity lighting for all outdoor light fixtures.
- Goal LU-12 To enhance the urban form while maintaining visual and physical access to distinctive environmental features.
 - Policy LU-12.3 To enhance views of hillsides, open space, and other distinctive views within the community, proposed project designs will be expected to maintain some viewshed by regulating building orientation, height, and mass.
 - Policy LU-12.4 Where feasible, the City should preserve the existing natural edges along the city's creek system and wetland areas and restore impacted creeks by planting natural vegetation.
 - Policy LU-12.5 Where feasible (and not a significant impact to the natural resources), the City shall encourage the provision of access to creeks, wetlands, and other open space areas to pedestrian and bicycle access.

- Policy LU-12.6 Wherever practical, the City will encourage new development to be oriented towards adjacent creeks and wetland areas and provide visual access to these areas.
- Policy LU-12.7 When possible, the City shall locate open space and parks adjacent to creeks.
- Policy LU-12.8 The City shall encourage site planning that incorporates creek and wetland edges into the overall development.
- Policy LU-12.9 The City shall utilize urban design programs, including principles and guidelines, to recognize, maintain, and enhance the character and identity of existing residential and commercial neighborhoods.
- Goal LU-13 To preserve Lincoln's character and scale, including its traditional urban design form and historic character.
 - Policy LU-13.4 The City shall ensure that new development respects Lincoln's heritage by requiring that new development respond to its context and be compatible with the traditions and character of Lincoln, and shall promote orderly development which is compatible with its surrounding scale and which protects the privacy, and access to light and air of surrounding properties.
 - Policy LU-13.5 The City shall actively promote interesting architecture and design in buildings, open space, and urban design.

Consistency Analysis

The project has been designed to harmonize with the adjacent residential development near the project site. In compliance with Policy LU-9.7, the project has been designed to complement the density and height of the Lincoln Highlands development, adjacent to the western edge of the project site. In addition, the inclusion of an open space lot within the project site would ensure consistency with Policy LU-9.8. Moreover, the inclusion of an open space lot and two landscape lots, one along Hungry Hollow Road and the other along Virginiatown Road would create a gateway to the eastern edge of the City, consistent with General Plan policy LU-9.3. The open space lots and landscaped lots along Hungry Hollow Road and Virginiatown Road would also create a buffer between the project site and the existing residential land uses to the east and west, in accordance with Policy OSC-1.3.

Residential developments, such as the proposed project can create sources of light and glare through outdoor lighting, vehicle lighting, and street lighting. The proposed project would be required to adhere to General Plan Policy LU-11.3, and consistency with Policy LU-11.3 would be confirmed in the Design Review process, pursuant to Lincoln Municipal Code Section 18.67.

Additionally, Mitigation Measure 4.1-3 requires that the project applicant submit a lighting plan to demonstrate that the proposed project would properly control light and glare in compliance with Policy LU-11.3.

Air Quality and Greenhouse Gas Emissions

The following goals and policies related to air quality are from the City of Lincoln General Plan and are applicable to the proposed project.

Health & Safety Element: Air Quality

- Goal HS-3 To reduce the generation of air pollutants and promote non-polluting activities to minimize impacts to human health and the economy of the City.
 - Policy HS-3.2 Regional Agency Review of Development Proposals. The City shall solicit and consider comments from local and regional agencies on proposed projects that may affect regional air quality. The City shall submit development proposals to the Placer County Air Pollution Control District for review and comment in compliance with the California Environmental Quality Act (CEQA) prior to consideration by the City.
 - Policy HS-3.3 Placer County Air Quality Attainment Plan. The City shall continue to support the recommendations found in the Placer County Air Quality Attainment Plan for the reduction of air pollutants.
 - Policy HS-3.5 Development Requirements. The City shall require developments, where feasible, to be located, designed, and constructed in a manner that would minimize the production of air pollutants and avoid land use conflicts.
 - Policy HS-3.6 City Review of Development Proposals. The City shall require consideration of alternatives or amendments that reduce emissions of air pollutant when reviewing project applications.
 - Policy HS-3.8 Air Quality Analysis. The City may require an analysis of potential air quality impacts associated with significant new developments through the environmental review process, and identification of appropriate mitigation measures prior to approval of the project development.
 - Policy HS-3.9 Dust Suppression Measures. The City shall require contractors to implement dust suppression measures during

excavation, grading, and site preparation activities. Techniques may include, but are not limited to, the following:

- Site watering or application of dust suppressants,
- Phasing or extension of grading operations,
- Covering of stockpiles,
- Suspension of grading activities during high wind periods (typically winds greater than 25 miles per hour), and
- Revegetation of graded areas.
- Policy HS-3.11 Woodburning. The City shall require the use of natural gas or the installation of low emission, EPA-certified fireplace inserts in all open-hearth fireplaces in new homes. The city shall promote the use of natural gas over wood products in space heating devices and fireplaces in all new homes and existing homes considering remodeling plans.
 - Policy HS-3.17 Street Design. The City shall promote street design that provides an environment which encourages neighborhood electric vehicles, transit use, biking and walking.
- Policy HS-3.18 Design for Transportation Alternatives. The City shall encourage all new development to be designed to promote pedestrian and bicycle access and circulation (including the use of NEVs), to the greatest extent feasible.
- Policy HS-3.21 Shade Tree Informational Packet. The City will develop a tree planting informational packet to help future residents understand their options for planting trees that can absorb carbon dioxide.

Consistency Analysis

Chapter 4.2, Air Quality and Greenhouse Gas Emissions, of this EIR analyzes potential air quality impacts based on the established PCAPCD significance thresholds (Policies HS-3.3 and HS-3.8). In order to minimize operational emissions associated with the proposed project, mitigation has been included to prohibit the project's use of wood-burning fireplaces, woodstoves, or similar wood-burning devices (Policies HS-3.5 and HS-3.11). In addition, specific mitigation measures have been imposed to reduce the amount of air pollutants associated with grading and building construction activities, per policy HS-3.9. GHG emissions associated with the proposed project were determined to be below the applicable thresholds of significance. The design of the proposed project would include a traffic calming measure in the form of a roundabout, as well as sidewalks

throughout the site and connecting off-site, both of which would encourage alternative means of transportation (Policies HS-3.17 and HS-3.18).

Biological Resources

The following goals and policies of the City of Lincoln General Plan related to Biological resources are applicable to the proposed project.

- Goal OSC-5 To preserve and protect existing biological resources including both wildlife and vegetative habitat.
 - Policy OSC-5.1 Protect Significant Vegetation. The City shall support the preservation of heritage oaks and threatened or endangered vegetative habitat from destruction. A heritage oak shall be defined as a tree with a diameter of 36 inches measured at a point 4.5 feet above grade level (i.e., diameter at breast height or DBH).
 - Policy OSC-5.2 Management of Wetlands. The City shall support the management of wetland and riparian plant communities for passive recreation, groundwater recharge, and wildlife habitats. Such communities shall be restored or expanded, where possible and as appropriate.
 - Policy OSC-5.3 Placer Legacy Open Space and Conservation Program. The City will continue to coordinate with Placer County and the Placer Legacy Open Space and Conservation Program to protect habitat areas that support endangered species and other special-status species.
 - Policy OSC-5.4 Encourage Planting of Native Vegetation. The City shall encourage the planting of native trees, shrubs, and grasslands in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native vegetation, and ensure that a maximum number and variety of well-adapted plants are maintained.
 - Policy OSC-5.5 New Development in Sensitive Areas. The City shall require that new development in areas that are known to have particular value for biological resources be carefully planned and, where possible, avoided so that the value of existing sensitive vegetation and wildlife habitat can be maintained.
 - Policy OSC-5.6 No Net Loss of Wetlands. The City will maintain a policy of no net loss of wetlands on a project-by-project basis, which

may include an entire specific plan area. For the purpose of identifying such wetlands, the City will accept a map delineating wetlands which has been accepted by the U.S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act of 1972. The term "no net loss" may include mitigation implemented through participation in an off-site mitigation bank or similar mitigation mechanism acceptable to the City and permitting agencies.

Policy OSC-5.7 404 Permit Requirements. The City may require project proponents to obtain 404 Permits, and prepare mitigation plans for, or provide for the avoidance, preservation, and maintenance of identified wetlands prior to submitting applications for land use entitlements.

Policy OSC-5.8 Corps of Engineers Disclaimers. The City may, but need not, accept a Corps of Engineers disclaimer of any jurisdiction over the project of a Corps of Engineers 404 permit as the City's own plan for the achievement of a project's no net loss of wetlands.

- Policy OSC-5.9 Wetlands Dedication. All preserved wetlands shall be dedicated to the City or a non-profit organization acceptable to the City and preserved through perpetual covenants enforceable by the City or other appropriate agencies, to ensure their maintenance and survival. With respect to areas dedicated to the City, acceptance shall be conditioned upon establishment of a lighting and landscaping district or other public or private funding mechanisms acceptable to the City.
- Policy OSC-5.10 Native Vegetation for Landscaping. The City shall develop a list of native vegetation to be used as a landscape pallet for use within open space / preserve areas. Native plants should also be incorporated into plant palettes used in developed areas by citizens and developers.
- Policy OSC-5.11 Requirement for Biological Studies. Prior to project (i.e., specific plan or individual project) approval, the City shall require a biological study to be prepared by a qualified biologist for any proposed development within areas that contain a moderate to high potential for sensitive habitat. As appropriate, the study shall include the following activities:
 - (1) Inventory species listed in the California Native Plant Society Manual of California Vegetation;
 - (2) Inventory species identified by the USFWS and CDFG;

- (3) Inventory special status species listed in the California NDDB; and
- (4) Field survey of the project site by a qualified biologist.
- Policy OSC-5.12 Appropriate Mitigation Measures. The City shall consider using appropriate mitigation measures for future projects (i.e., specific plans or individual projects) based on mitigation standards or protocols adopted by the applicable statute or agency (e.g., USFWS, CDFG, etc.) with jurisdiction over any affected sensitive habitats or special status species.
- Policy OSC-5.13 Minimize Lighting Impacts. The City shall ensure that lighting in residential areas and along roadways shall be designed to prevent artificial lighting from reflecting into adjacent natural or open space areas.

Consistency Analysis

Barnett Environmental prepared a Biological & Wetland Resources Assessment, as well as a Special-Status Plant Survey Update for the proposed project in accordance with General Plan Policy OSC-5.11. The recommendations of the Biological Resources Assessment were integrated into the proposed project in a variety of ways, including through the imposition of mitigation measures (OSC-5.12). Development of the project site would be primarily on the eastern side of the property, to avoid many of the on-site wetlands. The wetlands would be managed and preserved as open space, which would be dedicated to the City. On-going management and preservation of the on-site wetlands would fulfill Policies OSC-5.2, OSC-5.3, and PSC-5.9. Additionally, mitigation included in the Biological Resources Chapter of this EIR requires that the proposed project adhere to the City's No-Net-Loss policy for wetlands (OSC-5.11), and that the proper measures are taken to protect the existing on-site oak tree (OSC-5.1). Finally, as discussed in the Aesthetics section above, the proposed project would avoid light and glare impacts on areas outside of the area of development, thus fulfilling Policy OSC-5.13.

Cultural Resources

The following goals and policies of the City of Lincoln General Plan related to cultural resources are applicable to the proposed project.

- Goal OSC-6 To preserve and protect existing archaeological, historical, and paleontological resources for their cultural values.
 - Policy OSC-6.1 Evaluation of Historic Resources. The City shall use appropriate State and Federal Standards in evaluating the significance of historical resources that are identified in the City.

- Policy OSC-6.2 Historic Structures and Sites. The City shall support public and private efforts to preserve, rehabilitate, and continue the use of historic structures, sites, and districts. Where applicable, preservation efforts shall conform to the current Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Building.
- Policy OSC-6.3 Archaeological Resources. The City shall support efforts to protect and/or recover archaeological resources.
- Policy OSC-6.5 Mitigation Monitoring for Historical Resources. The City shall develop standards for monitoring of mitigation measures established for the protection of historical resources prior to development.
- Policy OSC-6.7 Discovery of Archaeological / Paleontological Resources. In the event that archaeological / paleontological resources are discovered during ground disturbing activities, the City shall require that grading and construction work within 100 feet of the find shall be suspended until the significance of the features can be determined by a qualified professional archaeologist / paleontologist as appropriate. The City will require that a qualified archeologist / paleontologist make recommendations for measures necessary to protect the find; or to undertake data recovery, excavation, analysis, and curation of archaeological / paleontological materials, as appropriate.
- Policy OSC-6.8 Archaeological Resource Surveys. Prior to project approval, the City shall require project applicant to have a qualified professional archeologist conduct the following activities within the area of potential effects (APE): (1) conduct a record search at the North Central Information Center located at California State University Sacramento and other appropriate historical repositories to determine the extent of previously recorded sites and surveys within the project area, and to develop a historical context within which sites can be evaluated for significance, (2) conduct a field survey to locate, map, and record prehistoric and historic resources, and (3) prepare cultural resource inventory and evaluation reports meeting California Office of Historic Preservation Standards to document the results of the record search and field survey, and to provide significance evaluations and

management recommendations for any identified historical resources within the APE.

- Policy OSC-6.9 Native American Resources. The City shall consult with Native American representatives, including appointed representatives from United Auburn Indian Community, to discuss concerns regarding potential impacts to cultural resources and to identify locations of importance to Native Americans, including archeological sites and traditional cultural properties. Coordination with the Native American Heritage Commission should begin at the onset of the review of a proposed project.
- Policy OSC-6.10 Discovery of Human Remains Consistent with CEQA Guidelines (Section 15064.5), if human remains are discovered during project construction, it is necessary to comply with state laws relating to prohibitions on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (California Health and Safety Code Section 7050.5). If any human remains are discovered or recognized in any location on the project site, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:
 - A. The Placer County Coroner / Sheriff has been informed and has determined that no investigation of the cause of death is required; and

If the coroner determines that the remains are of Native American origin:

- 1. The coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours.
- 2. The NAHC shall identify the person or persons it believes to be the most likely descendent (MLD) from the deceased Native American.
- 3. The MLD shall have an opportunity to make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.

- B. The NAHC was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission.
- C. The County has notified the United Auburn Indian Community (UAIC) Tribal Council and solicited their input.

Consistency Analysis

As discussed in Chapter 4.4, Cultural Resources, the proposed project site has been evaluated based on the NRHP and CEQA criteria, and historic or archaeological resources were not discovered during field surveys conducted on the site (Policies OSC-6.1 and OSC-6.8). The City consulted with the United Auburn Indian Community of the Auburn Rancheria during preparation of the EIR (OSC-6.9). Mitigation identified in this EIR requires appropriate treatment of archaeological, historic, and paleontological resources, as well as human remains, should any be discovered within the project site (Policies OSC-6.3, OSC-6.7, OSC-6.8, and OSC-6.10).

Soils, Geology, and Seismicity

The following applicable goals and policies related to soils, geology, and seismicity are from the Health & Safety Element of the City of Lincoln General Plan.

Goal HS-2	To minimize expo and seismic hazarc	sure of persons and property to damage resulting from geologic ls.
	Policy HS-2.1	Seismic Safety of Structures. The City shall require that new structures intended for human occupancy are designed and constructed to minimize risk to the safety of occupants due to ground shaking.
	Policy HS-2.3	Development in Areas Subject to Geologic Hazards. The City shall discourage incompatible land uses from being located in areas subject to geologic or seismic hazards (e.g., liquefaction and expansive soils).
	Policy HS-2.4	California Building Standard Code. The City shall continue to require that alterations to existing buildings and all new buildings be built according to the seismic requirements of the California Building Standard Code. Ensure implementation of the Placer County Grading Ordinance to protect against sedimentation and soil erosion.

Consistency Analysis

As noted in Chapter 4.5, Soils, Geology, and Seismicity, of this EIR, the proposed development would be required to comply with California Building Code requirements (Policies HS-2.1 and HS-2.4). The chapter includes an analysis of geologic hazards present at the proposed project site, and mitigation has been included that would ensure that the project is designed and constructed to minimize risks from such hazards (Policy HS-2.3).

Hydrology and Water Quality

The following goals and policies from the General Plan are applicable to the hydrology and water quality resources of the proposed project.

Public Facilities and Services Element

- Goal PFS-4 To ensure provision and sizing of adequate storm drainage facilities to accommodate existing and planned development.
 - Policy PFS-4.2 Development Requirements. The City shall encourage project designs that minimize drainage concentrations and impervious coverage and avoid floodplain areas and, where feasible, be designed to provide a natural water course appearance.
 - Policy PFS-4.6 Preproject Conditions. The City will require new development to provide storm-water detention sufficient to limit outflow per Figure 7-1 of the City's Stormwater Management Manual (February 1994), or as revised.

Master Drainage Plans shall be designed to require new development to provide, or contribute towards, stormwater detention to reduce post-development peak flow from a 100year event to pre-development flow rate less 10 percent of the difference between the estimated pre-development and the post-development unmitigated peak flow rates. The Master Drainage Plan shall identify appropriate locations to achieve such post-development flows. This criterion is principally designed to address the 100-year event with appropriate consideration given for the feasibility of mitigating 2-year and 10-year events.

Policy PFS-4.7 Stormwater Runoff. The City shall require new development to provide stormwater-retention sufficient for the incremental runoff from an eight-day 100 year storm.

- Policy PFS-4.8 Discharge of Urban Pollutants. The City shall require appropriate runoff control measures as part of future development proposals to minimize discharge of urban pollutants (such as oil and grease) into area drainages.
- Policy PFS-4.10 Erosion Control Measures. The City shall require adequate provision of erosion control measures as part of new development to minimize sedimentation of streams and drainage channels.
- Policy PFS-4.11 Stormwater Management Manual. The City shall require drainage designs and practices to be in accordance with the Stormwater Management manual of the Placer County Flood Control District unless alternative methods are approved by the City Engineer.
- Policy PFS-4.12 Drainage Management Plan Costs. The City shall require that the cost to develop new or modify existing Drainage Management Plans be allocated to applicants proposing development within the City's Sphere of Influence.
- Policy PFS-4.13 Maintenance of Detention Basins. The City shall require City maintenance of detention basins with financing by a separate drainage or special assessment district. When private facilities are used for detention, maintenance will be privately financed.
- Goal OSC-4 To preserve and enhance local streams, creeks, and aquifers.
 - Policy OSC-4.3 Protect Surface Water and Groundwater. The City shall ensure that new development projects do not degrade surface water and groundwater
 - Policy OSC-4.6 Best Management Practices. The City shall continue to require the use of feasible and practical best management practices (BMPs) to protect surface water and groundwater from the adverse effects of construction activities and urban runoff. Additionally, The City shall require, as part of its Storm Water NPDES Permit and ordinances, to implement the Pollution Prevention Plan (SWPPP) during construction activities for any improvement projects, new development and redevelopment projects for reducing pollutants to the maximum extent practicable.

Health and Safety Element

- Goal HS-6 To minimize the risk of life and property of the City's residents from flood hazards.
 - Policy HS-6.3 Master Drainage Plans. The City shall require master drainage plans as a condition of approval for large development projects.

Consistency Analysis

The proposed project includes two detention basins that would be hydrologically sized to maintain pre-project flows, in accordance with the Placer County Stormwater Management Manual and the City of Lincoln Stormwater Management Plan (Policies PFS-4.2, Policy PFS-4.7, and PFS-4.11). The detention basins would provide runoff pollution control (Policy PFS-4.8). In addition, a SWPPP would be prepared for construction activity related to the proposed project, which would include erosion control measures and BMPs (Policy OSC-4.6, and PFS-4.10).

Land Use and Planning / Agriculture Resources

The proposed projects consistency with policies related to land use, planning, and agricultural resources in the City of Lincoln are addressed in the Land Use and Planning / Agricultural Resources Chapter.

Noise

The following goals and policies related to noise are included in the City of Lincoln General Plan.

- Goal HS-8 To protect residents from health hazards and annoyance associated with excessive noise levels.
 - Policy HS-8.1 The City will allow the development of new noise-sensitive land uses (which include but are not limited to residential, health care facilities and schools) only in areas exposed to existing or projected levels of noise which satisfy the levels specified in Table 8-1 (Table 6-1 below).
 - Policy HS-8.2 The City will strive to achieve exterior noise levels for existing and future dwellings in residential areas that do not exceed exterior noise levels of 60 dBA CNEL and interior noise levels of 45 dBA CNEL.

Table 6-1 Maximum Allowable Noise Exposure by Land Use						
Locations	Normally Acceptable (CNEL)	Conditionally Acceptable (CNEL)	Normally Unacceptable (CNEL)	Unacceptable (CNEL)		
Residential – Low-Density Single Family, Duplex, Mobile Homes	< 60	61-70	71-75	> 75		
Residential – Multiple Family, Group Homes	< 60	61-70	71-75	> 75		
Motels/Hotels	< 60	61-70	71-80	> 80		
Schools, Libraries, Churches, Hospitals, Extended Care Facilities	< 60	61-70	71-80	> 80		
Auditoriums, Concert Halls, Amphitheaters	< 65	N/A	66-70	> 70		
Sports Arenas, Outdoor Spectator Sports	< 70	N/A	71-75	> 75		
Playgrounds, Neighborhood Parks	< 70	N/A	N/A	> 70		
Golf Courses, Riding Stables, Water Recreation, Cemeteries	< 70	N/A	71-80	> 80		
Office Buildings, Business Commercial and Professional	< 65	66-75	75-81	N/A		
Industrial, Manufacturing, Utilities, Agriculture	< 70	71-80	> 81	N/A		

Notes:

Normally Acceptable – Specified land use is satisfactory, based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable – New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed insulation features have been included in the design. **Normally Unacceptable** – New construction or development should generally be discouraged. If new construction

or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Outdoor areas must be shielded.

Unacceptable – New construction or development should not be undertaken.

Source: City of Lincoln General Plan, Noise Element [Table 8-1, pg. 8-10].

Policy HS-8.9	The City shall use adopted noise compatibility guidelines to evaluate compatibility of proposed new development and ensure compatibility between residential, commercial and other surrounding land uses (see Table 8-1, Maximum Allowable Noise Exposure by Land Use).
Policy HS-8.11	The City shall require sound attenuation features (including noise buffering or insulation) in new development along major streets and highways, and along railroad tracks.
Policy HS-8.14	The City shall require noise analysis of proposed development projects as part of the environmental review process and to require mitigation measures that reduce noise impacts to acceptable levels. The noise analysis shall:

- Be the responsibility of the applicant.
- Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.
- Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.
- Estimate existing and projected noise levels in terms of L_{dn}/CNEL and compare the levels to the adopted policies of the City's General Plan.
- Recommend appropriate mitigation to achieve compatibility with the adopted noise policies and standards of the City's General Plan. Where the noise source in question consists of intermittent single events, the acoustical analysis must address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance.
- Estimate noise exposure after the prescribed mitigation measures have been implemented. If the project does not comply with the adopted standards and policies of the City's General Plan, the analysis must provide acoustical information for a statement of overriding considerations for the project.
- Describe a post-project assessment program, which could be used to evaluate the effectiveness of the proposed mitigation measures.
- Policy HS-8.15 The City shall establish restrictions regarding the hours and days of construction activities throughout the City.
 Policy HS-8.16 The City shall enforce the State Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the Uniform Building Code.

Consistency Analysis

The proposed project is a residential development adjacent to existing residential development to the east and west. Thus, the project is compatible with the existing noise environment of the area, and would not introduce any incompatible noise-producing land uses (Policy HS-8.9). An Environmental Noise and Vibration Assessment was prepared by Bollard Acoustical Consultants, Inc. for the proposed project (Policy HS-8.14). The Environmental Noise Assessment included recommendations for noise attenuation strategies, such as construction of a sound wall, in compliance with Policy HS-8.11. Moreover, mitigation measures within this EIR would restrict construction operations to daytime hours, and require that adequate measures be taken to manage construction related noise (Policy HS-8.15).

Public Services and Utilities

The following are the applicable goals and policies related to public services and utilities from the City of Lincoln General Plan.

Public Facilities and Services Element

- Goal PFS-1 To ensure that adequate public services and facilities are provided to meet the needs of residents of the city.
 - Policy PFS-1.1 Maintain Adequate Public Services The City shall ensure the provision of adequate public services and facilities to the existing areas of the city and to ensure that new development is served by a full range of public services.
 - Policy PFS-1.2 Annexation Requirements The City shall require that prior to any annexations to the City a detailed public facilities and financing plan be completed that considers both capital facilities and the fiscal impacts to the City's ongoing operation and maintenance costs.
 - Policy PFS-1.3 Conditions of Approval During the development review process, the City shall not approve new development unless the following conditions are met:
 - The applicant can demonstrate that all necessary infrastructure will be installed or adequately financed;
 - Infrastructure improvements are consistent with City infrastructure plans; and
 - Infrastructure improvements incorporate a range of feasible measures that can be implemented to reduce public safety and/or environmental impacts associated with the construction, operation, or maintenance of any required improvement.
- Goal PFS-2 Ensure provision of a water system with adequate supply transmission, distribution and storage facilities to meet the needs of existing and future development.
 - Policy PFS-2.3 Adequate Water Supply for New Development The City shall require the availability of an adequate water supply to be demonstrated before approving new development.
 - Policy PFS-2.5 Development in Annexation Areas The City shall not allow development within newly annexed areas until a potable water supply is obtained through Placer County Water Agency (PCWA) or Nevada Irrigation District (NID) or, where appropriate, other water districts. For purposes of this policy,

potable water will be considered obtained when a written confirmation of supply of surface water is received from the appropriate water agency and a funding mechanism acceptable to the City is in place to pay for any improvements necessary for the delivery of treated water. Applications for new development can be processed prior to obtaining appropriate will-serve documentation, but the project will not be approved prior to receiving this documentation.

- Policy PFS-2.6 Coordinate with PCWA and NID The City shall coordinate development activity with the PCWA and NID to ensure adequate provision of treated water supplied by either supplier.
- Policy PFS-2.9 Water Storage Requirements The City shall condition new development on availability of storage that meets the following parameters:
 - Equalizing Storage (for meeting peak flows) 25 percent of maximum day demand.
 - Fire Reserve Provide fire reserve as required by the Insurance Services Office (ISO) or as required by the City Fire Chief and City Engineer.
 - Emergency Reserve 33 percent of the total of Equalizing Storage and Fire Reserve.
- Policy PFS-2.13 Connection Fees The City may allow use of connection fees for improving and upgrading off-site facilities as appropriate and to support the overall system integrity necessary to serve the new development.
- Policy PFS-2.14 Development Requirements The City shall require new development to be responsible for construction of water transmission and distribution lines less than 18 inches in diameter. Provision will be made allowing reimbursement from Third Parties should such lines result in an "over-sizing" for a particular development.
- Policy PFS-2.17 Water Conservation Measures for New Development The City shall require new development to use the best available technologies (BAT) for water conservation, including, but not limited to water-conserving water closets, showerheads, faucets, and water conserving irrigation systems.
- Goal PFS-3 Ensure provision of adequate sanitary sewers and wastewater treatment capacity to accommodate existing and future development in order to protect public health and safety.

- Policy PFS-3.9 Sewer Connections The City shall approve connections to the City's existing sewer system and treatment plant on a first-come, first-served basis as secured through development agreements, building permits, or other financial agreements.
- Policy PFS-3.10 Sewer Lines for New Development The City shall require new development to be responsible for construction of all sanitary sewer lines serving such development. Provision will be made allowing reimbursement from Third Parties, or credits against City wastewater fees (as approved by the Director of Public Works) should such lines result in an "over-sizing" for a particular development.
- Goal PFS-5 Ensure provision of an efficient program for the management and reduction of solid waste materials, including collection and disposal, in order to protect public health and the natural environment, to conserve energy and natural resources, and to extend landfill capacity.
 - Policy PFS-5.1 Solid Waste Collection The City shall require solid waste collection services for existing and new developments to ensure the maintenance of health standards.
 - Policy PFS-5.2 Waste Reduction The City shall promote maximum use of solid waste reduction, recycling, and composting of wastes for a reduction in residential, commercial, and industrial waste disposal.
 - Policy PFS-5.3 Recycling of Construction Debris The City shall encourage the recycling of construction debris.
 - Policy PFS-5.4 Provisions for Solid Waste Storage, Handling and Collection Pickup - The City shall ensure that all new buildings and facilities have proper facilities for solid waste storage, handling, and collection pickup prior to issuance of building permits.
 - Policy PFS-5.5 Solid Waste Reduction Programs The City shall aggressively pursue measures for recycling of materials and pursue a financing mechanism for solid waste reduction programs.

Goal PFS-6 To ensure that adequate and efficient public utilities are provided to meet the needs of residents of the city.

Policy PFS-6.2 Undergrounding of Utility Lines - The City shall require undergrounding of utility lines in new development, except where it is not feasible due to the electrical transmission load or other operational issues as confirmed by the utility provider.

- Goal PFS-8 To provide adequate fire and police protection facilities and services to ensure the safety of residents and the protection of property in the city.
 - Policy PFS-8.1 Fire Loss and Damage The City shall work to minimize fire loss and damage within the city.
 - Policy PFS-8.2 Fire Protection The City shall expand fire protection services as needed to meet fire response times.
 - Policy PFS-8.3 Public Awareness of Fire and Emergency Procedures The City shall promote public awareness of fire and emergency procedures by developing new and expanding existing public fire safety and emergency life support education programs.
 - Policy PFS-8.4 Fire Response Times The City shall strive to maintain a firefighting capability sufficient to maintain a fire response time of five minutes or less as a general guideline for service provision and locating new fire stations.
 - Policy PFS-8.5 Provision of Fire Station Facilities and Equipment The City shall provide fire station facilities, equipment (engines and other apparatus), and staffing necessary to maintain the City's service standards (ISO rating and response time).
 - Policy PFS-8.6 Emergency Access The City shall require all new developments to provide adequate emergency access features, including secondary access points.
 - Policy PFS-8.8 Police Protection The City shall expand police protection service consistent with community needs and provide an adequate level of service.
 - Policy PFS-8.9 Building Design and Security The City shall continue to promote the use of site planning and building design as a means to decrease crime.
 - Policy PFS-8.11 Provisions of Police Facilities For purposes of defining capital facilities investment for police facilities, the City shall base

facility needs on a staffing ratio of 1.8 officers per 1,000 population.

- Policy PFS-8.12 Neighborhood Watch The City shall promote the establishment of citizen participation in safety programs, such as Neighborhood Watch and Citizens on Patrol programs.
- Policy PFS-8.14 Police Response Time The City shall strive to maintain an average response time of five minutes or less for priority one calls.
- Goal PFS-9 To ensure that adequate community facilities are provided and are conveniently located in order to meet the needs of residents of the city.
 - Policy PFS-9.1 The City shall ensure that in areas of new development, school facilities meeting adopted school district standards will be available.
 - Policy PFS-9.7 Developer Fees for School Districts The City shall ensure that in areas of new development, school facilities meeting adopted school district standards will be available.
 - Policy PFS-9.9 School Funding To the extent allowed by State law, the City will require new projects to mitigate impacts on school facilities, which could occur through a combination of new school site dedications and the use of developer fees. The City will also work with school districts, developers, and the public to evaluate alternatives to funding / providing adequate school facilities.

Open Space and Conservation Element

- Goal OSC-7 To provide and maintain park facilities that provide recreational opportunities for all residents.
 - Policy OSC-7.1 Park Facilities The City shall provide park facilities in accordance with following adopted park standards:

Parks	Standard			
Parks without Development Agreement	5 acres/1,000 residents			
Parks with Development Agreement	9 acres/1,000 residents			
City-wide park	3 acres/1,000 residents			
Neighborhood/Community Park	3 acres/1,000 residents			
Open Space	3 acres/1,000 residents			
Notes: Nine acres consist of six acres for active recreation and three acres				
for passive recreation.				

- Policy OSC-7.6 Dedication of Parkland The City will continue to collect park dedication fees, require the dedication of parkland, or a combination of both as a condition of development approval for the provision of new parks, or the rehabilitation of existing parks and recreational facilities in order to meet the City's parkland standards in Policy 7.1.
- Policy OSC-7.7 In-Lieu Fees The City shall provide for the payment of an inlieu fee, in those instances where the City determines that park land dedication is not appropriate. The in-lieu fee shall reflect the cost of fully serviced vacant land.
- Policy OSC-7.8 Adopted Park Standards The amount and location of any future parkland to be developed within the city will be determined by adopted park standards and location guidelines.

The City shall strive to provide the following recreational facilities:

- One multipurpose center per 10,000 population with the structural square footage to be determined by the City Council based on the evaluation of community needs.
- One 50-meter swimming pool per 10,000 population based upon a determination of the City Council of community needs.
- One mile of pedestrian/bicycle trails per 2,500 population.
- Policy OSC-7.17 Capital Improvement Fees The City will collect a capital facilities fee on new development to generate funding to construct park and recreation improvements in accordance with the requirements set forth in the City's adopted standards.
- Policy OSC-7.18 Park Construction The City will strive to have newly dedicated, mini and neighborhood parks, constructed by residential developers in conjunction with their project, such that new residents have immediate access to park facilities.
- Policy OSC-7.19 Pocket Parks As part of its urban design concept, the City will utilize the pocket park (approximately 0.25 to 0.50 acre) to establish a passive recreational and social gathering area in neighborhoods where it is deemed appropriate. Such parks are non-credited facilities toward parkland dedication requirements.

Land Use and Community Design Element

- Goal LU-1 To grow in orderly pattern consistent with the economic, social, and environmental needs of Lincoln.
 - Policy LU-1.11 Natural Resource Conservation To promote a high quality of life within the community, the City will in conjunction with related policies in other general plan elements, promote the retention of natural open space areas, greenbelts and the provision of adequate parks as part of approving new land use designs.
- Goal LU-12 To enhance the urban form while maintaining visual and physical access to distinctive environmental features.
 - Policy LU-12.5 Access to Creek and Wetland Edges Where feasible (and not a significant impact to the natural resources), the City shall encourage the provision of access to creeks, wetlands, and other open space areas to pedestrian and bicycle access.
 - Policy LU-12.7 Open Space Location When possible, the City shall locate open space and parks adjacent to creeks.

Consistency Analysis

The City strives to maintain adequate public services and utilities for existing and proposed developments. Proposed projects within the City, including annexations to the City, are required to ensure that adequate public services are provided following annexations (Policies PFS-1.1 and PFS-1.2). As discussed in the Public Services and Utilities Chapter of this EIR, the proposed project would be served by adequate public services and utilities services. In order to ensure adequate services, the proposed project would be required to pay school fees (Policies PFS-9.7 and PFS-9.9), dedicate park facilities or pay land use fees (Goal OSC-7 and Policies OSC-7.1, OSC-7.6, and OSC-7.7), ensure the provision of adequate solid waste collection service (PFS-5.1), and provide for adequate police and fire protection services through the payment of development fees (Policy PFS-8.4 and PFS-8.8).

Adequate water supply, wastewater treatment capacity, and utility capacity exists to serve the proposed project (Policies PFS-2.3, PFS-3.9, PFS-6, PFS-6.2, and Goal PFS-6). While there is capacity to serve the project, the proposed project would fulfill Policies PFS-2.14 and PFS-3.10 by providing water and sewer infrastructure connections to existing utilities.

Transportation and Circulation

The Transportation and Circulation Element of the City of Lincoln General Plan includes the following goals and policies that are relevant to transportation and circulation.

- Goal T-2 Continue to ensure provision and maintenance of a safe and efficient system of streets to meet demands of existing and planned development.
 - Policy T-2.2 New Development. The City shall ensure that streets and highways will be available to serve new development by requiring detailed traffic studies and necessary improvements as a part of all major development proposals.
 - Policy T-2.3 Level of Service for Local Streets and Intersections. Strive to maintain a LOS C at all signalized intersections in the City during the PM peak hours. Exceptions to this standard may be considered for intersections where the city determines that the required road improvements are not acceptable (i.e., due to factors such as the cost of improvements exceeding benefits achieved, results are contrary to achieving a pedestrian design, or other factors) or that based upon overriding considerations regarding project benefits, an alternative LOS may be accepted. For purposes of this policy, City intersections along McBean Park Drive between East Avenue and G Street, and G Street between First Street and Seventh Street, are excluded from the LOS C standard, and will operate at a lower LOS.¹
 - Policy T-2.4 Level of Service for State Highways. The City shall coordinate with Caltrans in order to strive to maintain a minimum LOS "D" for SR 65 and SR 193.
 - Policy T-2.5 Monitor Intersections. The City will identify and monitor critical intersections on a periodic basis and construct needed improvements in a timely manner, based upon available resources, if the LOS drops below "C", unless a lower LOS has been established pursuant to Policy T-2.3. For purposes of this policy, critical intersections exclude those along McBean Park Drive between East Avenue and G Street, and G Street between First Street and Seventh Street.
 - Policy T-2.14 Developer Requirements. The City shall require developers to construct at least the first two lanes of any road (including curbs, gutters and sidewalks) within their projects.
 - Policy T-2.19 Capital Improvements Program. The City shall implement street widening and other circulation improvements which are related to new development in conjunction with the City's capital improvements program.

¹ Note that G Street is also known as Lincoln Boulevard and/or "Old Highway 65."

- Policy T-2.20 Coordinate with Neighboring Jurisdictions. The City will coordinate with neighboring jurisdictions to determine if acceptable and compatible levels of service, consistent with the circulation elements and levels of service set forth in the affected jurisdiction's general plan, on the roadways that extend into other jurisdictions can be achieved. The City will continue to participate in the South Placer Regional Transportation Authority (SPRTA) as part of an effort to develop interagency funding mechanisms to construct mutually acceptable regional transportation improvements. The City will require project developers to be responsible for a project's fair share of all feasible physical improvements identified as part of the interagency funding program.
- Goal T-4 To provide and maintain viable alternate modes of transportation for the community that will relieve congestion and improve environmental conditions.
 - Policy T-4.3 Promote Public Transit. The City shall promote the use of public transit through development conditions requiring park-and-ride lots, bus turnouts and passenger shelters along major streets adjacent to appropriate land uses.
 - Policy T-4.4 Funding for Public Transit. The City shall continue to provide funding mechanism for community transit services and require that new employment-generating, large-scale commercial, office, and residential development be adequately served by transit.
 - Policy T-4.6 Expansion of Transit Service Areas. The City shall expand fixed route transit service to serve new development areas, including direct connections to employment and commercial areas.
- Goal T-5 To provide an interconnected system of bikeways that would provide users with direct linkages at a city and regional level.
 - Policy T-5.1 Develop Bike Lanes. The City shall require bike lanes in the design and construction of major new street and highway improvements, and to establish bike lanes on those city streets wide enough to accommodate bicycles safely.
 - Policy T-5.4 Bicycle and Pedestrian Crossings. The City shall provide pedestrian/bicycle crossings at appropriate intervals along new roadways that will adequately serve new large-scale

commercial office, industrial development, and residential development as well as parks and schools.

- Policy T-5.6 Trails and Pathways to Retail and Employment Centers. The City shall promote pedestrian convenience and safety through development conditions requiring sidewalks, walking paths, or hiking trails that connect residential areas with commercial, shopping, and employment centers. Where feasible, trails will be looped and interconnected.
 - Policy T-5.7 Trails and Pathways along Creeks and Wetland Areas. The City shall encourage the development of trails and pathways along the edges of creeks and wetland areas. Where feasible, trails will be looped and interconnected.
- Policy T-5.9 Pedestrian Access. The City shall encourage specific plans and development plans to include design of pedestrian access that enables residents to walk from their homes to places of work, recreation and shopping.
- Goal HS-3 To reduce the generation of air pollutants and promote non-polluting activities to minimize impacts to human health and the economy of the City.
 - Policy HS-3.18 Design for Transportation Alternatives. The City shall encourage all new development to be designed to promote pedestrian and bicycle access and circulation (including the use of NEVs), to the greatest extent feasible.

Consistency Analysis

In accordance with Policy T-2.2, Fehr & Peers conducted a detailed traffic analysis for the proposed project, the results of which are presented in Section 4.10. The analysis was completed in compliance with the operations standards included in Policies T-2.3 and T-2.4.

Policy T-2.3 establishes the City of Lincoln's LOS C policy for signalized intersections during the PM peak hour. Because the City does not have any similar LOS policy for unsignalized intersections or other time periods (i.e., AM peak hour), the analysis within the Transportation and Circulation chapter applies the LOS C standard to all City of Lincoln intersections during both the AM and PM peak hours, consistent with previous traffic analyses prepared for the City of Lincoln, with the exception of those intersections identified in Policy T-2.3.

The City of Lincoln General Plan Policy T-2.4 also states that the City shall coordinate with Caltrans to strive to maintain a minimum of LOS D conditions for SR 65. The policy is applied to Caltrans ramp intersections where they intersect City of Lincoln roadways; however, Caltrans

CSMP concept LOS is applied to the SR 65 freeway and highway segments within the City of Lincoln, as they are under Caltrans jurisdiction and control.

The proposed project would include construction of all internal roadways, as required by Policy T-2.4. In addition to the internal roadways, the proposed project would include various pedestrian features and traffic calming features. For example, the project would include a roundabout at one internal intersection. Roundabouts are effective measures for calming vehicle speeds, which allows for safer use of alternative transportation, such as bicycling (Policy HS-3.18).

As noted in Chapter 4.10, Transportation and Circulation, of this EIR, residents of the proposed project would have relatively limited access to transit, as the nearest transit stop is located over a mile from the project site. However, the roadways in the vicinity of the project site, including Virginiatown Road, are not identified as major streets. Virginiatown Road is identified as a "collector" on the Lincoln General Plan Circulation Diagram. Accordingly, Policy T-4.3 would not directly apply to the proposed project. In addition, Policies T-4.4 and T-4.6 are directed towards large-scale developments, such as employment-generating commercial and office uses, and large-scale residential developments. The proposed project would not constitute employment-generating uses, and the introduction of 144 single-family residential units would not create any inconsistencies with adopted transit plans, guidelines, policies, or standards.

The project would include construction of sidewalks throughout the project site, and the internal sidewalks would connect to proposed sidewalks along Virginiatown Road and Hungry Hollow Road (Policy T-5.9 and HS-3.18). Given that continuous sidewalks are provided to the west of the site along Virginiatown Road with the exception of a 300-foot section directly west of Heartwood Street, residents of the proposed project would be afforded convenient pedestrian access to the existing development in the surrounding area (Policy T-5.6).

7. ALTERNATIVES ANALYSIS

ALTERNATIVES ANALYSIS

7.1 INTRODUCTION

The primary intent of the alternatives evaluation in an EIR, as stated in Section 15126.6(a) of the California Environmental Quality Act (CEQA) Guidelines, is to "[...] describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." Furthermore, Section 15126.6(f) states, "The range of alternatives required in an EIR is governed by a 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice."

The CEQA Guidelines provide the following guidance for discussing alternatives to a proposed project:

- An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives (CEQA Guidelines Section 15126.6[a]).
- Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly (CEQA Guidelines Section15126.6[b]).
- The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination [...] Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts (CEQA Guidelines Section15126.6[c]).
- The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A

matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison (CEQA Guidelines Section 15126.6[d]).

- The specific alternative of "no project" shall also be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The no project alternative analysis is not the baseline for determining whether the proposed project's environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline (CEQA Guidelines Section 15126.6[e][1]).
- If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section15126.6[e][2]).

In addition, Section 15126.6(d) of the CEQA Guidelines states, "If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed."

7.2 PURPOSE OF ALTERNATIVES

The project alternatives need to feasibly attain most of the basic objectives of the project, but avoid or substantially lessen any of the significant effects of the project.

The following project objectives have been developed by the project applicant for the proposed project:

- 1. Provide the City of Lincoln with a project sized in the 150-unit range, with lot sizes comparable to those in the adjacent Lincoln Highlands subdivision, and consistent with the 2008 Lincoln General Plan assumptions for the project site;
- 2. Complete the land use planning for the last parcel within the City's Sphere of Influence in the 2008 Lincoln General Plan adjacent to the north side of Virginiatown Road with a walkable residential development consistent with Blueprint principles of the Sacramento Area Council of Governments (SACOG);
- 3. Create an attractive gateway to Lincoln on Virginiatown Road from the east as residents and visitors enter the northeastern portion of the City;
- 4. Improve the City's tax base by replacing a long-standing undeveloped property with market ready housing and lot sizes attractive to a broad range of homebuyers;
- 5. Create a sustainable residential development that maximizes opportunities for energy efficiency, water conservation, and use of renewable energy systems; and
- 6. Provide a housing development with approximately twenty percent of the project site in open space.

The EIR has determined that the following significant impacts resulting from the Lincoln Meadows project require mitigation measures to ensure that the level of significance is ultimately less than significant:

- *Aesthetics.* The EIR determined that implementation of the proposed project could result in significant impacts related to the creation of new sources of substantial light or glare in the project area. However, the EIR requires mitigation in order to ensure that impacts related to such would be less than significant.
- *Air Quality and Greenhouse Gas Emissions.* The EIR determined that implementation of the proposed project would result in significant impacts in regard to air quality. Operation of the proposed project would generate reactive organic gas (ROG) emissions at a level that would exceed the Placer County Air Pollution Control District (PCAPCD) significance threshold of 55 pounds per day. However, the EIR requires mitigation in order to ensure that impacts related to operational emissions would be less than significant.
- **Biological Resources.** The EIR determined that implementation of the proposed project would result in potential impacts to various wildlife species including vernal pool fairy shrimp, the western spadefoot toad, Swainson's hawk, white-tailed kite, burrowing owl, and species protected by the Migratory Bird Treaty Act. In addition, the proposed project would impact wetlands and "other waters of the United States". However, the EIR requires mitigation in order to ensure that impacts related to protected species and sensitive habitats, including wetlands and other waters would be less than significant.
- *Cultural Resources.* The EIR determined that implementation of the proposed project could result in disturbance or destruction of previously unknown subsurface historical resources on-site. In addition, construction activities associated with the proposed project could uncover undocumented archaeological, tribal cultural, or paleontological resources. However, the EIR requires mitigation in order to ensure that impacts related to historical, archeological, tribal, and paleontological resources would be less than significant.
- *Soils, Geology, and Seismicity.* The EIR determined that implementation of the proposed project could result in an impact related to the potential presence of expansive soils or compressible materials on-site. However, the EIR requires mitigation in order to ensure that impacts related to such would be less than significant.
- *Hydrology and Water Quality.* The EIR determined that implementation of the project could result in impacts related to the substantial degradation of water quality during construction of the project. However, the EIR requires mitigation in order to ensure that impacts related to hydrology and water quality would be less than significant
- *Noise.* The EIR determined that construction activities associated with the proposed project could cause temporary increases in ambient noise levels due to operation of heavy-duty construction equipment on-site and increased truck traffic on area roadways. In addition, Cumulative Plus Project Virginiatown Road traffic noise levels at the nearest proposed

outdoor activity areas would exceed the applicable City of Lincoln exterior noise level standard. However, the EIR requires mitigation in order to ensure that impacts related to substantial temporary or periodic increases in ambient noise levels in the project vicinity above levels without the project, as well as cumulative on-site noise impacts, would be less than significant.

• *Transportation and Circulation.* The EIR determined that implementation of the proposed project could result in short-term construction-related traffic impacts, a decrease in the level of service of a study intersection to an unacceptable level, an increase in delay at a second study intersection by greater than five seconds under Cumulative Plus Project Conditions, and a significant increase in the volume to capacity ratio along Virginiatown Road between Hungry Hollow Road and McCourtney Road, under the cumulative condition. Although the EIR requires mitigation to ensure that most potential impacts related to the proposed project would be reduced to less-than-significant levels, the proposed project's increase to the volume to capacity ratio along Virginiatown Road between Hungry Hollow Road and McCourtney Road is considered a significant unavoidable impact.

The EIR concluded that the proposed project would result in a significant and unavoidable impact related to cumulative traffic impacts. However, the EIR further concluded that all other potential impacts related to the proposed project would either be less than significant or reduced to a lessthan-significant level with the implementation of mitigation.

7.3 SELECTION OF ALTERNATIVES

The requirement that an EIR evaluate alternatives to the proposed project or alternatives to the location of the proposed project is a broad one; the primary intent of the alternatives analysis is to disclose other ways that the objectives of the project could be attained, while reducing the magnitude of, or avoiding, one or more of the environmental impacts of the proposed project. It should be noted that all of the proposed project's potential impacts would be reduced to a less-than-significant level with implementation of the mitigation measures included in the EIR. Alternatives that are included and evaluated in the EIR must be feasible alternatives. However, the CEQA Guidelines require the EIR to "set forth only those alternatives necessary to permit a reasoned choice." As stated in Section 15126.6(a), an EIR need not consider every conceivable alternatives that will foster informed decision making and public participation. The CEQA Guidelines provide a definition for "a range of reasonable alternatives" and thus limit the number and type of alternatives that may need to be evaluated in a given EIR. According to the CEQA Guidelines Section 15126.6(f):

The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determined could feasibly attain most of the basic objectives of the project. First and foremost, alternatives in an EIR must be feasible. In the context of CEQA Guidelines Section 21061.1, "feasible" is defined as:

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

Finally, an EIR is not required to analyze alternatives when the effects of the alternative "cannot be reasonably ascertained and whose implementation is remote and speculative."

Alternatives Considered But Dismissed From Further Analysis

Consistent with CEQA, primary consideration was given to alternatives that could reduce significant impacts, while still meeting most of the basic project objectives.

As stated in Guidelines Section 15126.6(c), among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are:

- (i) failure to meet most of the basic project objectives,
- (ii) infeasibility, or
- (iii) inability to avoid significant environmental impacts.

Regarding item (ii), infeasibility, among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

The alternatives considered but dismissed from detailed analysis in this EIR are discussed below, along with the reason(s) for dismissal, within the context of the three above-outlined permissible reasons.

Off-Site Alternative

The possibility of an off-site location was considered as an alternative to the project. The City's 2013-2021 Housing Element was consulted to provide information regarding sites available for residential development in the project area. In considering sites identified for future development in the City's Housing Element, the objectives of the proposed project were used to assess the suitability of available sites. The majority of vacant unentitled land within the City limits are not large enough to accommodate a development in the range of 150 units (Project Objective #1). The only vacant land that could be used for such purposes is a 28.79-acre lot, identified as Map Reference Lot Number 4 (Lot Number 4), APN 335-010-038, in Appendix C and Table A-37 of

the City's 2013-2021 Housing Element (see Figure 7-1).¹ The applicant does not own or control this parcel.

Lot Number 4 is located on the southeastern edge of the City, and unlike the proposed project site, not near existing residential communities within the City of Lincoln or in close proximity to existing utilities. Considering Lot Number 4's distance from other existing developments within Lincoln, the development of Lot Number 4 would not accomplish the project's objectives of providing a walkable development that conforms with SACOG's Blueprint Principles. Development of Lot Number 4 would also not accomplish the project's objective of providing a gateway to the City on Virginiatown Road.

Additionally, Lot Number 4 contains drainage features and slopes, which may lead to increased impacts related to biological and cultural resources, geology and soils, and/or hydrology and water quality due to development of the site compared to the proposed project. Therefore, Lot Number 4 would not meet most of the project's objectives, and would not reduce significant impacts identified for the proposed project. Additionally, a tentative map for development of Lot Number 4 has been previously approved, and, thus, development of the site for a different project has already been approved.

Overall, a feasible off-site alternative that could accomplish the objectives within the proposed project are not considered feasible at this time. As a result, the Off-Site Alternative is dismissed from detailed evaluation.

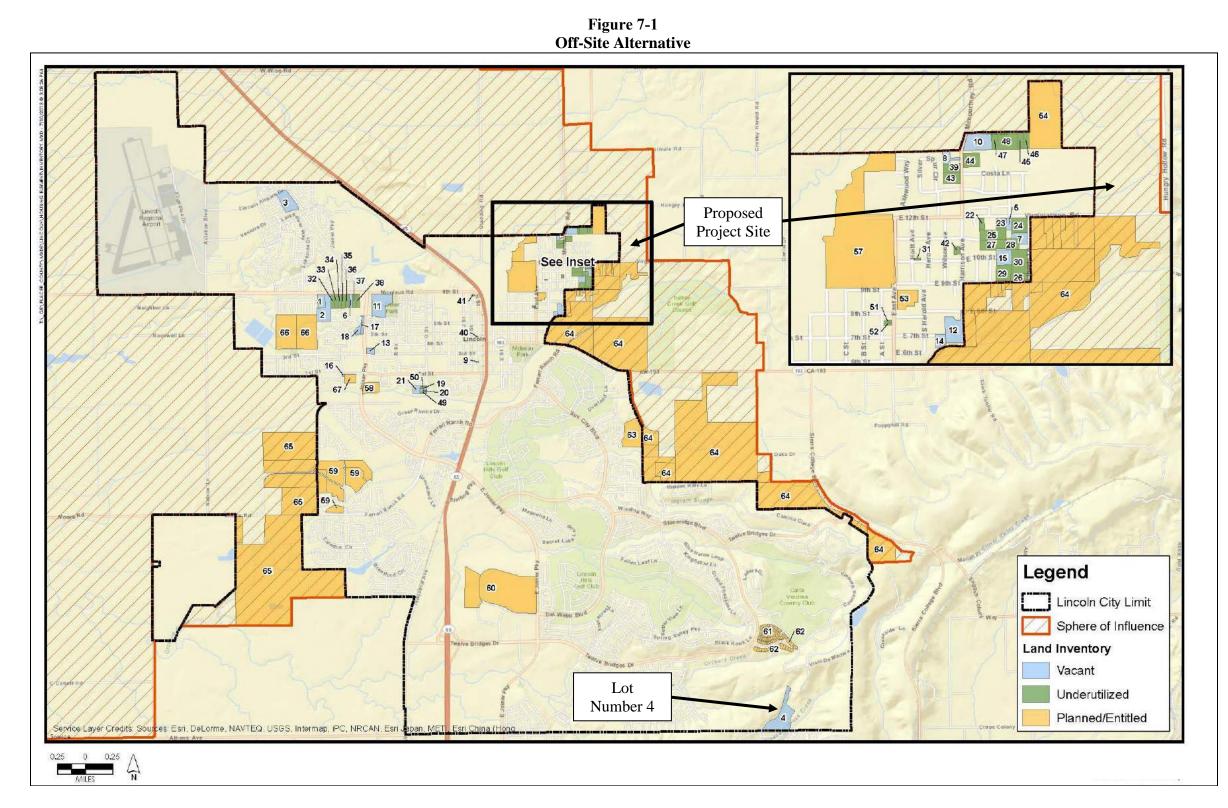
Alternatives Considered in this EIR

The following alternatives are considered and evaluated in this section:

- No Project (No Build) Alternative
- Reduced Intensity Alternative 1 / Clustered Development; and
- Reduced Intensity Alternative 2.

See Table 7-3, at the end of this chapter, for a comparison of the environmental impacts resulting from the considered alternatives and the proposed project.

¹ City of Lincoln. 2013-2021 Housing Element Background Report. November 12, 2013.



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No Project (No Build) Alternative

CEQA requires the evaluation of the comparative impacts of the "No Project" alternative (CEQA Guidelines Section 15126.6[e]). Analysis of the no project alternative shall:

"... discuss [...] existing conditions [...] as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services." (*Id.*, subd. [e][2]) "If the project is other than a land use or regulatory plan, for example a development project on identifiable property, the 'no project' alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in the property's existing state versus environmental effects that would occur if the project were approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this 'no project' consequence should be discussed. In certain instances, the no project alternative means 'no build,' wherein the existing environmental setting is maintained. However, where failure to proceed with the project would not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment." (*Id.*, subd. [e][3][B]).

Disapproval of the Lincoln Meadows project would not necessarily result in predictable actions by others, such as the proposal of some other project, given that the property is currently outside of the City limits and requires annexation in order to be developed. Notwithstanding this, the project site is currently within the Village 2 area of the Lincoln General Plan. Village 2 is envisioned to be a suburban village based on its location and good access with SR 65 and the proposed arterial south to Oak Tree Lane. Additionally, the existing on-site vernal pools and wetlands present a partial constraint to development. Given the above considerations, for purposes of this analysis, the City has concluded that it is reasonable to assume the project site would remain in its current state if the Lincoln Meadows project is disapproved unless and until the City approves a specific plan for Village 2. Consequently, the No Project Alternative in this instance is defined as a No Project (No Build) Alternative.

The No Project (No Build) Alternative is defined in this section as the continuation of the existing conditions of the project site, which is predominantly vacant grassland habitat, interspersed with vernal pools and bisected by the Lincoln Canal, owned and operated by Nevada Irrigation District. The No Project (No Build) Alternative would not meet any of the project objectives.

<u>Aesthetics</u>

The No Project (No Build) Alternative would consist of the continuation of the existing conditions of the project site. Because the No Project (No Build) Alternative would not introduce any new structures or buildings on the site, modifications to the existing visual character or quality of the site or surroundings, creation of any new sources of light or glare, changes to views of or from scenic vistas, and/or changes to scenic resources would not occur. Thus, impacts to aesthetics would not occur under the No Project (No Build) Alternative.

Air Quality and Greenhouse Gas Emissions

The No Project (No Build) Alternative would consist of the continuation of the existing conditions of the project site. Because the No Project (No Build) Alternative would not involve construction activities, the Alternative would not result in construction emissions of criteria pollutants or greenhouse gas (GHG) emissions. In addition, the No Project (No Build) Alternative would not result in emissions from operational sources such as new traffic trips to the site, the use of fireplaces, architectural coatings and cleaning supplies, and energy demand. Overall, the No Project (No Build) Alternative would not result in any impacts related to air quality and GHG emissions.

Biological Resources

Because land disturbance would not occur under the No Project (No Build) Alternative, impacts to biological resources related to construction activity on the project site would not occur. For example, on-site seasonal wetlands and vernal pools would not be graded and filled for development of the single-family residential units and infrastructure. In addition, potential impacts to the existing oak large valley oak tree would not occur. Impacts related to biological resources would not occur under the No Project (No Build) Alternative as compared to the proposed project.

Cultural Resources

Because ground-disturbing activities would not occur with the No Project (No Build) Alternative, impacts related to potential disturbance of previously unknown cultural resources would not occur. Therefore, impacts related to cultural resources and tribal cultural resources would not occur under the No Project (No Build) Alternative.

Soils, Geology, and Seismicity

Because structures would not be constructed on-site under the No Project (No Build) Alternative, impacts related to construction of residential development on expansive soils or compressible materials would not occur. Therefore, no impacts related to soils, geology, and seismicity would occur under the No Project (No Build) Alternative.

Hydrology and Water Quality

The No Project (No Build) Alternative would not alter the existing drainage pattern of the site or surrounding area and would not create or contribute an increase in runoff water that would exceed existing or planned stormwater drainage system capacity or violate water quality standards. Therefore, impacts related to hydrology and water quality would not occur under the No Project (No Build) Alternative.

Land Use and Planning / Agricultural Resources

The EIR determined that significant impacts related to land use or agricultural resources would not occur with development of the proposed project. Notwithstanding the EIR's conclusion that

the proposed project would have a less-than-significant impact related to land use and agricultural resources, it should be noted that the No Project (No Build) Alternative would not require a General Plan Amendment from Placer County Rural Residential and City of Lincoln Village 2 to City of Lincoln Low Density Residential and Open Space. Furthermore, annexation and prezone of the site would not be required under the No Project (No Build) Alternative. Prezoning of the site, as part of the proposed project, would include a change in zoning from the Placer County designation of Farm, to City of Lincoln designations of single-family residential district (R-1) and Open Space. Overall, the proposed project and the No Project (No Build) Alternative would not result in any significant impacts to land use and agricultural resources.

Noise

The No Project (No Build) Alternative would not include construction activities. As such, temporary or periodic increases in ambient noise levels due to construction-related activities would not occur. In addition, transportation noise along surrounding roadways would not be increased by operation of the No Project (No Build) Alternative and cumulative noise impacts to project-related residences along Virginiatown Road would not occur as a result of the No Project (No Build) Alternative. Therefore, the No Project (No Build) Alternative would not result in any significant impacts related to noise.

Public Services and Utilities

The EIR determined that significant impacts related to public services and utilities would not occur with development of the proposed project. Notwithstanding this, it is noted that the No Project (No Build) Alternative, unlike the proposed project, would not create any demand on public services and utilities. As a result, the No Project (No Build) Alternative would not create any impacts related to public services and utilities.

Transportation and Circulation

The No Project (No Build) Alternative would not include construction activities, and, thus, shortterm construction impacts would not occur. Unlike the proposed project, the No Project (No Build) Alternative would not result in impacts to the existing conditions at the intersection of 12th Street/East Avenue. Additionally, the No Project (No Build) Alternative would not result in impacts to the cumulative conditions at the intersection of Virginiatown Road/Hungry Hollow Road and Oak Tree Lane, nor would the No Project (No Build) Alternative result in a significant unavoidable impact to the section of Virginiatown Road between Hungry Hollow Road and McCourtney Road. However, it should be noted that the intersections of 7th Street/East Avenue, 12th Street/East Avenue, Virginiatown Road/McCourtney Road, and Virginatown Road/Hungry Hollow Road/Oak Tree Lane would continue to operate unacceptably in cumulative no project conditions. Although the aforementioned intersections and roadway segments may continue to operate unacceptably in the cumulative no project condition, the No Project (No Build) Alternative would not contribute any vehicle traffic to the affected roadways or intersections. Therefore, the No Project (No Build) Alternative would not involve any incremental contributions to cumulative impacts, and the No Project (No Build) Alternative would not result in any impacts related to Transportation and Circulation.

Reduced Intensity Alternative 1 / Clustered Development

The Reduced Intensity Alternative 1 / Clustered Development includes the development of the proposed project with 72 single-family residential units. The 72 units would be clustered in the southeastern and the northern portions of the project site with the remainder of the site being designated as open space. Figure 7-2 is a preliminary layout for this proposed alternative and illustrates a general concept of this alternative. Similar to the proposed project, it is anticipated that this alternative would also include two roadway access points, one along Virginiatown Road and the other along Hungry Hollow Road. By limiting the total number of units included in the project and clustering the remaining units, the Reduced Intensity Alternative 1 / Clustered Development would reduce the amount of ground disturbance needed during construction activity. The Reduced Intensity Alternative 1 / Clustered Development would not achieve the project objective of providing a project in the range of 150 units, with a number of units consistent with the 2008 Lincoln General Plan assumptions for the project site. However, the Reduced Intensity Alternative 1 / Clustered Development could still achieve the remainder of the project objectives, and would occur on a site owned by the applicant.

<u>Aesthetics</u>

Both the proposed project and Reduced Intensity Alternative 1 / Clustered Development would alter the existing visual character and quality of the site and the site's surroundings, and introduce new sources of light and glare. The Reduced Intensity Alternative 1 / Clustered Development would develop the site with similar single-family residential structures, which would change the visual character and quality of the site in a similar manner as the proposed project. However, by reducing the number of units and clustering the 72 units on a smaller area of the site, the Reduced Intensity Alternative 1 / Clustered Development would retain more open space than the proposed project. By designating a greater proportion of the project site as open space, the Reduced Intensity Alternative 1 / Clustered Development would retain more of the site's current open visual character, and the change in visual character of the site would be relatively less intense as compared to the proposed project.

The residential development included in the Reduced Intensity Alternative 1 / Clustered Development would continue to have the potential to affect nighttime conditions in the project area through creation of on-site light. However, considering that the Reduced Intensity Alternative 1 / Clustered Development would only include 72 residential units, as opposed to 144 residential units, the Reduced Intensity Alternative 1 / Clustered Development would result in the operation of fewer light fixtures on the project site. Because the Reduced Intensity Alternative 1 / Clustered Development would involve fewer light fixtures, the potential impacts to nighttime sky conditions in the project area resulting from operation of the Reduced Intensity Alternative 1 / Clustered Development would be less substantial than the proposed project.

Overall, the Reduced Intensity Alternative 1 / Clustered Development could affect the aesthetics and nighttime sky conditions of the project site, but such affects would be less intense than the proposed project, and the Reduced Intensity Alternative 1 / Clustered Development would result in fewer impacts related to aesthetics.

Latitude: 38°54'17.60"N — Longitude: 121°15'54.24"W Open Space Areas Hungry Hollow Reduced Intensity Alternative 1 /Clustered Development Area* えの Virginiatown Rd Latitude: 38°54'4.25"N Longitude: 121°16'12.62"W ----

Figure 7-2 Reduced Intensity Alternative 1 / Clustered Development

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Legend

1000	
_	Permitted Area
_	Verified Delineation Boundary
	Canal
]	Ditch (Verified, 2015)
]	Seasonal Wetland (Verified, 2015)
]	Vernal Pool (Verified, 2015)
	Upland Data Point
	Wetland Data Point

*0'	w'	349'	≮z	BARNETT
		Date: Febru	ary 20, 2017	ENSINONMENTAL

Plan Scale: 1" = 100' @ 42x30 SheeSiz

Air Quality and Greenhouse Gas Emissions

The Reduced Intensity Alternative 1 / Clustered Development would involve construction and operation of 72 residential units. The EIR determined that the proposed project would only have the potential to result in significant impacts related to operation of the proposed project. Therefore, this discussion focuses on the issue of operational emissions.

CalEEMod was used to estimate the Reduced Intensity Alternative 1 / Clustered Development's criteria air pollutant emissions during operation of the Alternative. The CalEEMod results for the operational emissions are presented in Table 7-1. Similar operational characteristics as the proposed project (i.e., trip rates, inherent site and/or project design features) were assumed in the model as described in the Air Quality and Greenhouse Gas Emissions chapter of this EIR. It should be noted that while emissions modeling for the proposed project included project-specific adjustments to operational vehicle miles travelled (VMT), modeling for the Reduced Intensity Alternative 1 / Clustered Development did not include any such adjustments to VMT. As shown in the table below, the unmitigated emissions of criteria air pollutants associated with the Reduced Intensity Alternative 1 / Clustered Development would be less than the proposed project during operations. However, for both the proposed project and the Reduced Intensity Alternative 1 / Clustered Development operational emissions of ROG would exceed the PCAPCD's thresholds for operational emissions Therefore, the Reduced Intensity Alternative 1 / Clustered Development would continue to require mitigation related to restrictions on wood-burning devices.

Table 7-1 Reduced Intensity Alternative 1 / Clustered Development Maximum Unmitigated Operational Emissions						
	Proposed Project Emissions	Reduced Intensity Alternative 1 / Clustered Development Emissions	PCAPCD Significance Threshold			
Pollutant	(lbs/day)	(lbs/day)	(lbs/day)			
ROG	229.63	116.84	55			
NO _X	18.30	11.77	55			
PM10	42.84	24.27	82			
Source: CalEEMod, December 2016 and February 2017 (See Appendix D and Appendix P).						

Source: CalEEMod, December 2016 and February 2017 (See Appendix D and Appendix P).

With the inclusion of mitigation prohibiting the installation of wood-burning devices, the Reduced Intensity Alternative 1 / Clustered Development would be anticipated to result in emissions below the PCAPCD's adopted threshold for ROG. Moreover, given the reduced number of units in the Reduced Intensity Alternative 1 / Clustered Development and the imposition of a mitigation measure banning wood-burning devices, similar to Mitigation Measure 4.2-2 in the Air Quality and Greenhouse Gas Emissions chapter of this EIR, the Reduced Intensity Alternative 1 / Clustered Development would result in reduced operational emissions of criteria pollutants, as compared to the proposed project.

Overall, the Reduced Intensity Alternative 1 / Clustered Development would result in fewer air quality impacts than the proposed project.

Biological Resources

The site is undeveloped and contains seasonal wetlands, vernal pools and a portion of the Lincoln Canal, all of which are considered wetlands or "other waters of the United States." In addition, one valley oak tree exists on the southern portion of the project site. Implementation of the proposed project would result in a loss of potential habitat including foraging and nesting habitat for raptors, migratory birds, vernal pool fairy shrimp, and special-status plant species. One goal of the clustered development approach of the Reduced Intensity Alternative 1 / Clustered Development is to increase the amount of sensitive natural communities (wetlands, vernal pools) preserved on the project site. By reducing the number of residential units and clustering the units within the site, the Reduced Intensity Alternative 1 / Clustered Development would decrease the area of wetlands directly impacted while increasing the area of wetlands indirectly impacted or avoided. Although the amount of directly impacted wetlands would be reduced in the Reduced Intensity Alternative 1 / Clustered Development, the Reduced Intensity Alternative 1 / Clustered Development would still result in some direct impacts to wetlands, and require piping of portions of the Lincoln Canal; thus, mitigation for the purchase of creation or preservation credits would still be required. Nevertheless, potential impacts related to biological resources would be fewer under the Reduced Intensity Alternative 1 / Clustered Development, as compared to the proposed project.

Cultural Resources

Due to the reduction in residential units and the increased open space, under the Reduced Intensity Alternative 1 / Clustered Development, the area of on-site disturbance would be reduced as compared to the area of disturbance of the proposed project. Reducing the area of disturbance could, in turn, result in reduced impacts to any previously unidentified archaeological and/or historic resources. Despite the reduction in area of disturbance, the Reduced Intensity Alternative 1 / Clustered Development could still result in disturbance of unknown cultural, historical, archaeological, and paleontological resources. The Reduced Intensity Alternative 1 / Clustered Development would require mitigation similar to the measures included in Cultural Resources chapter in order to ensure impacts would be less than significant.

Overall, potential impacts related to cultural resources would be fewer under the Reduced Intensity Alternative 1 / Clustered Development, as compared to the proposed project.

Soils, Geology, and Seismicity

Development of the Reduced Intensity Alternative 1 / Clustered Development would result in less site disturbance than the proposed project. The site conditions of the area to be disturbed under the Reduced Intensity Alternative 1 / Clustered Development are the same under the proposed project and the Reduced Intensity Alternative 1 / Clustered Development. As such, similar potential for on-site geologic hazards related to expansive soil and potentially compressible material would persist. The Reduced Intensity Alternative 1 / Clustered Development would require the same mitigation measures as the proposed project to reduce potential impacts related to compressible or

expansive soils to less-than-significant levels. However, the Reduced Intensity Alternative 1 / Clustered Development would result in the construction of fewer structures on the project site; therefore, the Reduced Intensity Alternative 1 / Clustered Development would result in fewer potential impacts associated with soils, geology, and seismicity compared to the proposed project.

Hydrology and Water Quality

Due to the increase in open space, construction activities associated with the Reduced Intensity Alternative 1 / Clustered Development would result in less on-site soil disturbance. Reducing the amount of soil disturbance related to construction of the Reduced Intensity Alternative 1 / Clustered Development could reduce the amount of on-site soil erosion and potential sedimentation of receiving waters compared to the proposed project. However, the proposed project is not anticipated to result in substantial erosion or water quality degradation during pollution due to the requirement that the proposed project implement a Storm Water Pollution Prevention Plan (SWPPP), which would include Best Management Practices (BMPs) to reduce the amount of soil erosion occurring during project construction. The Reduced Intensity Alternative 1 / Clustered Development would be required to prepare a similar SWPPP. Although both the proposed project and the Reduced Intensity Alternative 1 / Clustered Development would be required to implement a SWPPP with BMPs to reduce erosion and sedimentation, the reduced area of disturbance included in the Reduced Intensity Alternative 1 / Clustered Development would result in fewer potential impacts related to soil erosion and sedimentation.

The Reduced Intensity Alternative 1 / Clustered Development would overlay portions of the site with impermeable surfaces, which would alter the drainage pattern of the site in a similar manner as the proposed project. Considering the reduced number of residential units that would be included in the Reduced Intensity Alternative 1 / Clustered Development, the Reduced Intensity Alternative 1 / Clustered Development would result in a smaller development footprint, and the amount of impervious surfaces under the Reduced Intensity Alternative 1 / Clustered Development would be proportionally reduced. Additionally, the potential for urban pollutants to accumulate and be transported to the receiving drainage system, would be proportionally less than that of the proposed project. Therefore, the Reduced Intensity Alternative 1 / Clustered Development would preserve a greater proportion of the site as open space, where stormwater infiltration could continue to occur, while also reducing the total amount of impervious surfaces, which would reduce the amount of runoff and urban pollutants being generated on the developed portions of the site. While the increase in stormwater caused by impervious surfaces included in the Reduced Intensity Alternative 1 / Clustered Development may still require construction of on-site detention basins, such basins would receive comparatively less stormwater runoff. As such, the Reduced Intensity Alternative 1 / Clustered Development would result in fewer impacts related to stormwater runoff.

Overall, the Reduced Intensity Alternative 1 / Clustered Development would result in fewer hydrology and water quality related potential impacts, as compared to the proposed project.

Land Use and Planning / Agricultural Resources

The EIR determined that significant impacts related to land use or agricultural resources would not occur with development of the proposed project. Notwithstanding this, it is noted that the Reduced Intensity Alternative 1 / Clustered Development would similarly require redesignation, prezoning, and annexation of the project site.

Consequently, the Reduced Intensity Alternative 1 / Clustered Development would be anticipated to result in similar impacts as the proposed project, in regards to land use and agricultural resources.

Noise

The Reduced Intensity Alternative 1 / Clustered Development includes the development of the proposed project with a decrease in the number of residential units and an increase in open space. The Reduced Intensity Alternative 1 / Clustered Development would involve less site disturbance, and construction-related noise and vibration levels would, as a result, be less compared to that of the proposed project. Operation of the Reduced Intensity Alternative 1 / Clustered Development would involve fewer vehicle trips to and from the site, which would reduce operational traffic noise along roadway segments in the project area. Under the cumulative plus proposed project scenario, the residences backing towards Virginiatown Road, and the southernmost residence along Hungry Hollow Road, closest to the intersection of Hungry Hollow Road and Virginiatown Road, would experience noise levels in excess of the City's noise standards. Because the Reduced Intensity Alternative 1 / Clustered Development would result in a decrease in vehicle trips and operational traffic noise, the residences located along Virginiatown Road and Hungry Hollow Road would experience a reduction in exposure to roadway noise as compared to proposed project conditions, though a sound wall along Virginiatown Road may still be required similar to the proposed project.

Overall, the proposed project would result in fewer impacts related to noise compared to the proposed project.

Public Services and Utilities

The EIR determined that significant impacts related to public services and utilities would not occur with development of the proposed project. Notwithstanding this, under the Reduced Intensity Alternative 1 / Clustered Development, fewer housing units would operate on the project site, and the demand for public services and utilities in the Reduced Intensity Alternative 1 / Clustered Development would be proportionally less than the proposed project. As a result, while both the proposed project and the Reduced Intensity Alternative 1 / Clustered Development would not create significant impacts to public services and utilities, the Reduced Intensity Alternative 1 / Clustered Development would reduce the demand for such services.

As such, the Reduced Intensity Alternative 1 / Clustered Development would result in a less intense demand for public services and utilities. Therefore, the Reduced Intensity Alternative 1 / Clustered Development would result in fewer impacts related to public services and utilities.

Transportation and Circulation

Development of the Reduced Intensity Alternative 1 / Clustered Development would result in buildout of 72 residential units. The reduction of residential units from 144 units included in the proposed project to 72 units included in the Reduced Intensity Alternative 1 / Clustered Development, would reduce the number of vehicle trips occurring to and from the project site. While the proposed project would be anticipated to result in 1,409 daily vehicle trips, the Reduced Intensity Alternative 1 / Clustered Development would be anticipated to result in approximately 685 daily vehicle trips. Despite the reduction in traffic associated with the Reduced Intensity Alternative 1 / Clustered Development, mitigation related to signalization of nearby intersections may continue to be necessary, even with the reduction in overall vehicle traffic attributable to the Reduced Intensity Alternative 1 / Clustered Development. Furthermore, the project's significant and unavoidable impact on the section of Virginiatown Road between Hungry Hollow Road and McCourtney Road may continue to occur due to vehicle traffic related to the Reduced Intensity Alternative 1 / Clustered Development. Despite the continued need for traffic-related mitigation, the amount of traffic attributable to the Reduced Intensity Alternative 1 / Clustered Development would be less than that attributable to the proposed project. In addition, the Reduced Intensity Alternative 1 / Clustered Development would continue to have the potential of disrupting traffic during construction activities. Therefore, mitigation requiring the preparation of a construction traffic management plan for construction traffic impacts would still be necessary.

Overall, development of the Reduced Intensity Alternative 1 / Clustered Development would result in fewer impacts related to transportation and circulation compared to that of the proposed project.

Reduced Intensity Alternative 2

The Reduced Intensity Alternative 2 includes the development of the proposed project with 121 residential units spread throughout the project area. The 121 lots would be approximately 10,000 sf, rather than the 6,000 sf under the proposed project. Figure 7-3 depicts the preliminary layout for the Reduced Intensity Alternative 2. By increasing the average lot size, the Reduced Intensity Alternative 2 would provide a partial transition between the Lincoln Highlands project to the west and the rural-residential lots to the east of Hungry Hollow Road. Access to the Reduced Intensity Alternative 2 would be provided by one access point on Hungry Hollow Road and two access points along Virginiatown Road. By including 121 residential units, the Reduced Intensity Alternative 2 would achieve the proposed project's objective of constructing a residential project in the 150-unit range; however, with an average lot size of 10,000 sf, the Reduced Intensity Alternative 2 would not provide lot sizes comparable to the nearby Lincoln Highlands subdivision, nor would the project provide a housing development with lot sizes for a broad range of homebuyers. Additionally, the Reduced Intensity Alternative 2 would not provide objective six.

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Figure 7-3 Reduced Intensity Alternative 2 Project Site Plan

CHAPTER 7 – ALTERNATIVES ANALYSIS

Aesthetics

Both the proposed project and Reduced Intensity Alternative 2 would alter the existing visual character and quality of the site and the site's surroundings, and introduce new sources of light and glare. The Reduced Intensity Alternative 2 would develop the site with single-family residential structures, which would change the visual character and quality of the site in a similar manner as the proposed project. However, the 121 proposed units would be spread throughout the site, and the entire site would be developed. Thus, the Reduced Intensity Alternative 2 would retain less of the site's current open visual character, as all existing open space would be converted to residential uses. As a result, the change in visual character of the site would be relatively more intense than the proposed project.

Although the Reduced Intensity Alternative 2 would not include open space, the lot sizes included in the Reduced Intensity Alternative 2 would be larger than the lot sizes included in the proposed project. Increasing the proposed lot sizes could provide greater transition between the existing Lincoln Highlands development, and the existing rural residential development to the east of the project site.

The residential development included in the Reduced Intensity Alternative 2 would continue to have the potential to affect nighttime conditions in the project area through creation of on-site light. However, considering that the Reduced Intensity Alternative 2 would include 23 fewer residential units than the proposed project, the Reduced Intensity Alternative 2 would result in the operation of fewer light fixtures on the project site. Because the Reduced Intensity Alternative 2 would involve fewer light fixtures, the potential impacts to nighttime sky conditions in the project area resulting from operation of the Reduced Intensity Alternative 2 would be less substantial than the proposed project.

In summary, the Reduced Intensity Alternative 2 could affect the aesthetics and nighttime sky conditions of the project site. However, it would reduce potential impacts related to nighttime sky conditions because it would include fewer housing units and therefore potential sources of nighttime lighting, and it would provide a transition between the rural residential developments to the east and the Lincoln Highlands development to the west. The Reduced Intensity Alternative 2 would develop the entire project site, and would not include significant open space areas, Reduced Intensity Alternative 2 would result in a greater conversion of the project site's existing open visual character to a residential character. Considering the above, the Reduced Intensity Alternative 2 would be anticipated to result in greater impacts related to aesthetics.

Air Quality and Greenhouse Gas Emissions

The Reduced Intensity Alternative 2 would involve construction and operation of 121 residential units. The EIR determined that the proposed project would only have the potential to result in significant impacts related to operation of the proposed project. Therefore, this discussion focuses on the issue of operational emissions.

CalEEMod was used to estimate the Reduced Intensity Alternative's criteria air pollutant emissions during operation of the Alternative. The CalEEMod results for the operational emissions

are presented in Table 7-2. Similar operational characteristics as the proposed project (i.e., trip rates, inherent site and/or project design features) were assumed in the model as described in the Air Quality and Greenhouse Gas Emissions chapter of this EIR. It should be noted that while emissions modeling for the proposed project included project-specific adjustments to operational vehicle miles travelled (VMT), such VMT adjustments were not made for this alternative, as the alternative is not evaluated in the same level of detail as the proposed project. As a result of the omission of VMT adjustments for the Reduced Intensity Alternative 2, the CalEEMod default trip lengths for Reduced Intensity Alternative 2 predicted greater VMT than that which Fehr & Peers calculated for the proposed project. As shown in the table below, the unmitigated emissions of ROG and PM₁₀ associated with the Reduced Intensity Alternative 2 would be less than the proposed project during operations. However, because VMT adjustments were not made to the Reduced Intensity Alternative 2, the NO_X for the Reduced Intensity Alternative 2 would slightly exceed that of the proposed project. Notwithstanding the slight increase in NO_X, the Reduced Intensity Alternative 2's emissions of NO_X would not exceed PCAPCD thresholds. Although emissions of NO_X and PM₁₀ would not exceed PCAPCD's operational thresholds of significance, emissions of ROG related to operation of the Reduced Intensity Alternative 2, would exceed PCAPCD's threshold, as shown in Table 7-2. Therefore, the Reduced Intensity Alternative 2 would continue to require mitigation related to restrictions on wood-burning devices.

Table 7-2 Reduced Intensity Alternative 2 Maximum Unmitigated Operational Emissions						
Proposed Project Emissions	Reduced Intensity Alternative 2 Emissions	PCAPCD Significance Threshold				
(lbs/day)	(lbs/day)	(lbs/day)				
229.63	195.02	55				
18.30	19.78	55				
42.84	40.78	82				
	y Alternative 2 Maxim Proposed Project Emissions (lbs/day) 229.63 18.30	y Alternative 2 Maximum Unmitigated OperaProposed Project Emissions (lbs/day)Reduced Intensity Alternative 2 Emissions (lbs/day)229.63195.0218.3019.78				

Source: CalEEMod, December 2016 and May 2017 (See Appendix D and Appendix P).

With the inclusion of mitigation prohibiting the installation of wood-burning devices, the Reduced Intensity Alternative 2 would be anticipated to result in emissions below the PCAPCD's adopted threshold for ROG. Considering the reduced number of units included in the Reduced Intensity Alternative 2, and the imposition of a mitigation measure banning wood-burning devices, similar to Mitigation Measure 4.2-2 in the Air Quality and Greenhouse Gas Emissions chapter of this EIR, the Reduced Intensity Alternative 2 would result in reduced operational emissions of ROG and PM_{10} , as compared to the proposed project. Additionally, if an in-depth traffic analysis showed that operation of the Reduced Intensity Alternative 2 would result in a reduction in VMT, as compared to the proposed project, operational emissions of NO_X related to the Reduced Intensity Alternative 2 would likely be less than emissions presented in Table 7-2 above, and less than the emissions estimated for the proposed project.

Overall, the Reduced Intensity Alternative 2 would result in fewer air quality impacts than the proposed project.

Biological Resources

The site is undeveloped and contains seasonal wetlands, vernal pools and a portion of the Lincoln Canal, all of which are considered wetlands or "other waters of the United States." In addition, one large valley oak and several smaller trees exist on the project site. Implementation of the proposed project would result in a loss of potential habitat including foraging and nesting habitat for raptors, migratory birds, vernal pool fairy shrimp, and special-status plant species. Although the proposed project would result in loss of potential habitat, the proposed project would retain approximately 7.95-acres of the project site as undeveloped open space, which would protect some habitat. The open space included in the proposed project would be linked to existing open spaces included in adjacent Lincoln Highlands development. Additionally, the proposed project includes protection of the large valley oak.

To achieve larger lot sizes, the Reduced Intensity Alternative 2 would involve development of the entire site area. Therefore, the Reduced Intensity Alternative 2 would not result in the preservation or protection of any potential habitat, and would likely still result in the removal of the valley oak tree. Because the Reduced Intensity Alternative 2 would not include any open space, the Reduced Intensity Alternative 2 would not link to the nearby existing open space areas, and wildlife movement between the project site and the adjacent existing open space would be inhibited. The Reduced Intensity Alternative 2 would result in direct impacts to wetlands, and require piping portions of Lincoln Canal; thus, mitigation for the purchase of creation or preservation credits would still be required. Based on the above, the Reduced Intensity Alternative 2 would result in greater impacts under the Reduced Intensity Alternative 2, as compared to the proposed project.

Cultural Resources

Because the Reduced Intensity Alternative 2 would distribute the 121 residential units throughout the entire project site, the Reduced Intensity Alternative 2 would increase the area of on-site disturbance as compared to the area of disturbance of the proposed project. Expanding the area of disturbance could, in turn, result in increased impacts to any previously unidentified archaeological and/or historic resources on-site. Thus, the Reduced Intensity Alternative 2 could result in greater impacts related to cultural resources, as compared to the proposed project, and the mitigation measures included in chapter 4.4, Cultural Resources, of this EIR would be required.

Soils, Geology, and Seismicity

Development of the Reduced Intensity Alternative 2 would result in greater site disturbance than the proposed project. The site conditions of the area to be disturbed under the Reduced Intensity Alternative 2 are the same under the proposed project and the Reduced Intensity Alternative 2. As such, similar potential for on-site geologic hazards related to expansive soil and potentially compressible material would persist. The Reduced Intensity Alternative 2 would require the same mitigation measures as the proposed project to reduce potential impacts related to compressible or expansive soils to less-than-significant levels. Construction of 121 residential units, as opposed to 144 in the proposed project, would expose fewer residential units to potential soil hazards on the project site; however, the Reduced Intensity Alternative 2 would increase the area of site disturbance, which would increase the likelihood that units would be developed on compressible or expansive soils. Therefore, the reduction of residential units on-site, combined with the increase in disturbance area would result in the Reduced Intensity Alternative 2 involving similar potential impacts associated with soils, geology, and seismicity compared to the proposed project.

Hydrology and Water Quality

The Reduced Intensity Alternative 2 would involve increased site disturbance, which could increase the amount of on-site soil erosion and potential sedimentation of receiving waters compared to the proposed project. However, the proposed project is not anticipated to result in substantial erosion or water quality degradation during pollution due to the requirement that the proposed project implement a Storm Water Pollution Prevention Plan (SWPPP), which would include Best Management Practices (BMPs) to reduce the amount of soil erosion occurring during project construction. The Reduced Intensity Alternative 2 would be required to prepare a similar SWPPP. Although both the proposed project and the Reduced Intensity Alternative 2 would be required to implement a SWPPP with BMPs to reduce erosion and sedimentation, the increased area of disturbance included in the Reduced Intensity Alternative 2 would result in greater potential impacts related to soil erosion and sedimentation.

The Reduced Intensity Alternative 2 would overlay most of the site with impermeable surfaces, which would alter the drainage pattern of the site in a similar manner as the proposed project. Considering the reduced number of residential units that would be included in the Reduced Intensity Alternative 2, the Reduced Intensity Alternative 2 would involve construction of fewer structures and driveways, which would reduce the amount of impervious surfaces associated with residential lots. However, the Reduced Intensity Alternative 2 would include more internal roadways and sidewalk areas, which would represent an increase in impervious surfaces as opposed to the proposed project. The result of the decreased number of residential units and the increased amount of roadway and sidewalk paving would likely mean that the amount of impervious surfaces in the Reduced Intensity Alternative 2 would be roughly equivalent to the proposed project. Thus, the Reduced Intensity Alternative 2 would still require the construction of detention basins to receive stormwater from the developed areas. As such, the Reduced Intensity Alternative 2 would likely result in similar impacts related to stormwater runoff.

Overall, the Reduced Intensity Alternative 2 would result in greater hydrology and water quality related potential impacts, as compared to the proposed project.

Land Use and Planning / Agricultural Resources

The EIR determined that significant impacts related to land use or agricultural resources would not occur with development of the proposed project. Notwithstanding this, it is noted that the Reduced Intensity Alternative 2 would similarly require redesignation, prezoning, and annexation of the project site.

Consequently, the Reduced Intensity Alternative 2 would be anticipated to result in similar impacts as the proposed project, in regards to land use and agricultural resources.

Noise

The Reduced Intensity Alternative 2 includes the development of the proposed project with a decrease in the number of residential units in the project but the same number of residential units along Virginiatown Road as the proposed project. Construction of the Reduced Intensity Alternative 2 would occur over a shorter timeframe, due to the reduction in total units; thus, construction noise associated with the Reduced Intensity Alternative 2 would be reduced as compared to the proposed project. Operation of the Reduced Intensity Alternative 2 would involve fewer vehicle trips to and from the site, which would reduce operational traffic noise along roadway segments in the project area. Under the cumulative plus proposed project scenario, the residences backing towards Virginiatown Road, and the southernmost residence along Hungry Hollow Road, closest to the intersection of Hungry Hollow Road and Virginiatown Road, would experience noise levels in excess of the City's noise standards, identical to the proposed project. However, because the Reduced Intensity Alternative 2 would result in a decrease in vehicle trips and operational traffic noise, the residences located along Virginiatown Road and Hungry Hollow Road would experience a reduction in exposure to roadway noise as compared to proposed project conditions, though a sound wall along Virginiatown Road may still be required similar to the proposed project.

Overall, the proposed project would result in fewer impacts related to noise compared to the proposed project.

Public Services and Utilities

The EIR determined that significant impacts related to public services and utilities would not occur with development of the proposed project. Notwithstanding this, under the Reduced Intensity Alternative 2, fewer housing units would operate on the project site, and the demand for public services and utilities in the Reduced Intensity Alternative 2 would be proportionally less than the proposed project. As a result, while both the proposed project and the Reduced Intensity Alternative 2 would not create significant impacts to public services and utilities, the Reduced Intensity Alternative 2 would reduce the demand for such services.

As such, the Reduced Intensity Alternative 2 would result in a less intense demand for public services and utilities. Therefore, the Reduced Intensity Alternative 2 would result in fewer impacts related to public services and utilities.

Transportation and Circulation

Development of the Reduced Intensity Alternative 2 would result in buildout of 121 residential units. The reduction of residential units from 144 units included in the proposed project to 121 units included in the Reduced Intensity Alternative 2, would slightly reduce the number of vehicle trips occurring to and from the project site. While the proposed project would be anticipated to result in 1,409 daily vehicle trips, the Reduced Intensity Alternative 2 would be anticipated to result in approximately 1,152 daily vehicle trips. Despite the slight reduction in traffic associated with the Reduced Intensity Alternative, mitigation related to signalization of nearby intersections may continue to be necessary, even with the reduction in overall vehicle traffic attributable to the

Reduced Intensity Alternative. Moreover, the slight reduction in vehicle trips to and from the project site would have the potential to lessen the project's significant and unavoidable impact on the section of Virginiatown Road between Hungry Hollow Road and McCourtney Road. However, the significant and unavoidable impact to the aforementioned section of Virginiatown Road may continue to occur under the Reduced Intensity Alternative 2. Despite the continued need for traffic-related mitigation, the amount of traffic attributable to the Reduced Intensity Alternative 2 would be slightly less than that attributable to the proposed project. In addition, the Reduced Intensity Alternative 2 would continue to have the potential of disrupting traffic during construction activities. Therefore, mitigation requiring the preparation of a construction traffic management plan for construction traffic impacts would still be necessary.

Overall, development of the Reduced Intensity Alternative 2 would result in fewer impacts related to transportation and circulation compared to that of the proposed project.

7.4 Environmentally Superior Alternative

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. Section 15126(e)(2) of the CEQA Guidelines requires that an environmentally superior alternative be designated and states, "If the environmentally superior alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives."

The development of the Reduced Intensity Alternative 1 / Clustered Development and the Reduced Intensity Alternative 2 would partially satisfy the project objectives, while the No Project (No Build) Alternative would not satisfy any of the project objectives. As shown in Table 7-3 below, the Reduced Intensity Alternative 1 / Clustered Development would result in reduced impacts, compared to the proposed project, in nine resource areas. Additionally, the Reduced Intensity Alternative 2 would result in reduced impacts, compared to the proposed project, in four resource areas.

In this case, the No Project (No Build) Alternative would be considered the environmentally superior alternative because the project site is assumed to remain in its current condition under this alternative. Given that the no project alternative shall not be selected as the environmentally superior alternative, the Reduced Intensity Alternative 1 / Clustered Development becomes the environmentally superior alternative for the proposed Lincoln Meadows Project.

Table 7-3 Environmental Impacts Comparison for Proposed Project and Alternatives				
Resource Area	Proposed Project	No Project (No Build) Alternative	Reduced Intensity Alternative 1 / Clustered Development	Reduced Intensity Alternative 2
Aesthetics	Less-Than-Significant with Mitigation	None	Fewer	Greater
Air Quality and Greenhouse Gas Emissions	Less-Than-Significant with Mitigation	None	Fewer	Fewer
Biological Resources	Less-Than-Significant with Mitigation	None	Fewer	Greater
Cultural Resources	Less-Than-Significant with Mitigation	None	Fewer	Greater
Soils, Geology, and Seismicity	Less-Than-Significant With Mitigation	None	Fewer	Similar
Hydrology and Water Quality	Less-Than-Significant With Mitigation	None	Fewer	Greater
Land Use and Planning / Agricultural Resources ¹	Less-Than-Significant	None	Similar	Similar
Noise	Less-Than-Significant With Mitigation	None	Fewer	Fewer
Public Services and Utilities ¹	Less-Than-Significant	None	Fewer	Fewer
Transportation and Circulation	Significant and Unavoidable	None	Fewer	Fewer

No Impact = "None;" Less than Proposed Project = "Fewer;" Similar to Proposed Project = "Similar;" and Greater than Proposed Project = "Greater."

As noted in the discussion above, the EIR concluded that the proposed project would not result in any significant impacts to the identified resource areas.

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9. REFERENCES

REFERENCES

- Adell, Michael, Facilities Manager, Western Placer Unified School District. Personal Communication with Nick Pappani, Vice President, Raney Planning and Management, Inc. January 9, 2017.
- Alameda County Superior Court. California Building Industry Association v. Bay Area Air Quality Management District. A135335 and A136212. Filed August 12, 2016.

Baker-Williams Engineering Group. Lincoln Meadow Sewer Study. February 2016.

Baker-Williams Engineering Group. Lincoln Meadow Water Study. October 2015.

Baker-Williams Engineering Group. Lincoln Meadows Drain Study. October 19, 2015.

Baker-Williams Engineering Group. Water Study Lincoln Meadows. October 2015.

- Barnett, Bruce D, Ph.D., Barnett Environmental. Personal Communication [email] Nick Pappani, Vice President Raney Planning & Management. April 21, 2017.
- Barnett Environmental. Biological & Wetland Resources Assessment for the McKim Lincoln Meadows (Placer County) Property. May 5, 2017.
- Barnett Environmental. Special-Status Plant Survey Update for the McKim Lincoln Meadows Project. June 14, 2016.
- Bollard Acoustical Consultants, Inc. Environmental Noise Assessment, Lincoln Meadows Residential Development. May 11, 2017.
- BREEZE Software, A Division of Trinity Consultants in collaboration with South Coast Air Quality Management District and the California Air Districts. *California Emissions Estimator Model User's Guide Version 2016.3.1*. September 2016.
- California Air Resources Board. Aerometric Data Analysis and Management (iADAM) System. Available at: http://www.arb.ca.gov/adam/welcome.html. Accessed August 2016.
- California Air Resources Board. Air Quality and Land Use Handbook: A Community Health Perspective. April 2005.
- California Air Resources Board. Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. October 24, 2013. Available at: http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm. Accessed August 2016.

- California Air Resources Board. *Ambient Air Quality Standards*. May 4, 2016. Available at: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed August 2016.
- California Air Resources Board. Area Designations Maps / State and National. Published December 2015.
- California Air Resources Board. *California Ambient Air Quality Standards (CAAQS)*. Available at: http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm. Accessed August 2016.
- California Air Resources Board. First Update to the Climate Change Scoping Plan. May 22, 2014.
- California Air Resources Board. *Glossary of Air Pollution Terms*. Available at: http://www.arb.ca.gov/html/gloss.htm. Accessed August 2016.
- California Air Resources Board. In-Use Off-Road Diesel Vehicle Regulation. December 10, 2014. Available at: http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm. Accessed August 2016.
- California Air Resources Board. *Status of Scoping Initial Scoping Plan Measures*. Accessible at: https://www.arb.ca.gov/cc/scopingplan/2013_update/appendix_b.pdf. Accessed August 2016.
- California Air Resources Board. *Status of Scoping Plan Recommended Measures*. Available at: http://www.arb.ca.gov/cc/scopingplan/status_of_scoping_plan_measures.pdf. Accessed August 2016.
- California Air Resources Board. The 2017 Climate Change Scoping Plan Update. January 20, 2017.
- California Department of Conservation, Division of Land Resource Protection, FMMP: A Guide to the Farmland Mapping and Monitoring Program. Available at: http://www.consrv.ca.gov/DLRP/fmmp/pubs/fmmp_guide_2004.pdf, 2004.
- California Department of Conservation. *Fault Activity Map of California (2010)*. Available at: http://maps.conservation.ca.gov/cgs/fam/. Accessed October 5, 2016.

California Department of Conservation. Placer County Important Farmland 2014. April 2016.

- California Department of Conservation. *Placer County Williamson Act FY 2015/2016, Sheet 1 of* 2. 2015.
- California Department of Education. *Selected District Level Data for the year 2015-2016*. Available at: http://data1.cde.ca.gov/. Accessed October 28, 2016.

- California Department of Resources Recycling and Recovery. *Facility/Site Summary Details*. Available at: http://www.calrecycle.ca.gov/SWFacilities/Directory/31-AA-0220/Inspection/405091/. Accessed September 1, 2016.
- California Department of Transportation, Environmental Program. *Transportation Project-Level Carbon Monoxide Protocol*. Revised December 1997.
- California Department of Water Resources. Bulletin 118: Sacramento Valley Groundwater Basin North American Subbasin. Updated January 1, 2006.
- California Department of Water Resources. Groundwater Information Center: Key Legislation. Available http://www.water.ca.gov/groundwater/groundwater_management/legislation.cfm. Accessed April 26, 2017.
- California Energy Commission. *Petroleum Watch*. February 2015. Available at: http://www.energy.ca.gov/almanac/petroleum_data/petroleum_watch/2017_Petroleum_Watch/. Accessed March 2016.
- California Energy Consumption Data Management System. *Electricity Consumption by County*. Available at: http://ecdms.energy.ca.gov/elecbycounty.aspx. Accessed December 29, 2016.
- California Health and Safety Code Section 7050.5, California Public Resources Code Sections 5097.94, et seq.
- Campbell, Rodney, Special Projects Coordinator, Community Development, City of Lincoln. *Memorandum*. October 22, 2013.
- City of Lincoln. 2013-2021 Housing Element Background Report. November 12, 2013.
- City of Lincoln. City of Lincoln 2015 Urban Water Management Plan. June 2016.
- City of Lincoln. City Council Meeting Minutes. October 22, 2013.
- City of Lincoln. City of Lincoln 2013-2021 Housing Element Policy Document. Adopted November 12, 2013.

City of Lincoln. City of Lincoln General Plan Background Report. March 2008.

City of Lincoln. City of Lincoln General Plan Final Environmental Impact Report, Volume I. February 2008.

City of Lincoln. City of Lincoln General Plan Housing Element 2013-2021. November 12, 2013.

City of Lincoln. City of Lincoln General Plan. March 2008.

- City of Lincoln. *Fire Department Website*. Available at: http://lincolnca.gov/city-hall/fire-department. Accessed October 7, 2016.
- City of Lincoln. General Plan Background Report. March 2008.
- City of Lincoln. General Plan Update Draft Environmental Impact Report. October 2006.
- City of Lincoln. General Plan Update Final Environmental Impact Report. February 2008.
- City of Lincoln. Lincoln, California Code of Ordinances. Current through September 30, 2015.
- City of Lincoln. Ordinance No. 876B Construction Storm Water Runoff Control. January 22, 2013.
- City of Lincoln. *Police Department Website*. Available at: http://lincolnca.gov/city-hall/departments-divisions/police-department/divisions-and-units. Accessed October 7, 2016.
- City of Lincoln. Public Facilities Element Fee Nexus Study. February 9, 2012.
- City of Lincoln. Resolution Number 2005-135. May 24, 20005.

County of Placer. Local Hazard Mitigation Plan Update. March 2016.

- County of Placer. *Placer County Tree Mortality Task Force*. Available at https://www.placer.ca.gov/departments/ceo/emergency/tree-mortality. Accessed March 2017.
- CTE CAL, Inc. Preliminary Geotechnical Engineering Investigation, Lincoln Meadows Subdivision, NWC Virginiatown and Hungry Hollow Roads, Lincoln, California. February 27, 2015.
- CTE CAL, Inc. Preliminary Geotechnical Engineering Investigation Lincoln Meadows Subdivision. February 27, 2015.
- Department of Conservation, California Geological Survey. Special Report 190: Relative Likelihood for the Presence of Naturally Occurring Asbestos in Placer County, California. Published 2006.
- Environmental Protection Agency. *Stormwater Discharges from Construction Activity*. August 26, 2016.
- Federal Emergency Management Agency. *Flood Insurance Rate Map Number 06061C0402*. June 8, 1998.

- Federal Emergency Management Agency. *Flood Insurance Rate Map Number 06061C0719H*. December 12, 2015.
- Federal Emergency Management Agency. *Flood Insurance Rate Map: Panel No. 06061C0402F*. Effective Date June 08, 1998.
- Federal Emergency Management Agency. *Flood Insurance Rate Map: Panel No. 06061C0719H*. Effective Date December 28, 2015.
- Fehr & Peers. Lincoln Meadows Technical Traffic Model Outputs. May 2017.
- Finger, Kenneth L. Consulting Paleontologist. Paleontological Assessment of the Lincoln Meadows Project Site, Placer County California. December 15, 2016.
- FloodSafe California. Urban Level of Flood Protection Criteria. November 2013.
- Green, Angel, Associate Planner, Placer County Air Pollution Control District. Personal communication with Nick Pappani, Vice President of Raney Planning & Management, Inc. September 21, 2015.
- Intergovernmental Panel on Climate Change. Climate Change 2007: Impacts, Adaptation, and Vulnerability. 2007.
- Junker, Paul, Contract Planner, City of Lincoln. Personal communication with Nick Pappani, Vice President of Raney Planning & Management, Inc. January 19, 2017.
- Lincoln Police Department. 2015 Annual Report. 2015.
- Lee, Doug, City of Lincoln Chief of Police. Personal Communication [email] with Jacob Byrne, Associate, Raney Planning & Management, Inc. April 25, 2017.
- Leftwich, Ray, City Engineer, City of Lincoln. Personal Communication [email] with Nick Pappani, Vice President, Raney Planning & Management, Inc. April 28, 2017.
- Luhdorff and Scalmanini Consulting Engineers. South Sutter Water District Groundwater Management Plan. October 2009.
- Mitchell, Alan, City Engineering Consultant. Personal communication [email] with Nick Pappani, Vice President of Raney Planning & Management, Inc. August 25, 2016.
- Monk & Associates. Peer Review of a Biological Resources Assessment and the U.S. Army Corps of Engineers Wetland Jurisdictional Determination. April 20, 2016.
- Natural Resources Conservation Service. *Highly Erodible Land Definitions*. Available at: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/pr/soils/?cid=nrcs141p2_037282. Accessed October 5, 2016.

Oak Ridge National Laboratory. Transportation Energy Data Book: Edition 33. July 2014.

- Pacific Gas & Electric Company, Tim Fitzpatrick, Chief Communications Officer. PG&E Cuts Carbon Emissions with Clean Energy. January 30, 2015. Available at: http://www.pgecurrents.com/2015/01/30/pge-cuts-carbon-emissions-with-clean-energy/. Accessed March 10, 2015.
- PAR Environmental Services, Inc. Cultural Resources Inventory, The Proposed Lincoln Meadows Development. June 2016.
- Placer County Air Pollution Control District. *California Environmental Quality Act Thresholds* of Significance: Justification Report. October 2016.
- Placer County Air Pollution Control District. CEQA Air Quality Handbook. October 11, 2012.
- Placer County Air Pollution Control District. Placer County Air Pollution Control District Policy. Review of Land Use Projects Under CEQA. October 13, 2016.
- Sacramento Area Council of Governments. *The Blueprint Vision*. Available at: http://www.sacregionblueprint.org/adopted/. Accessed April 2017.
- Sacramento Metropolitan, El Dorado, Feather River, Placer, and Yolo-Solano Air Districts, Spare the Air website. Air Quality Information for the Sacramento Region. Available at: http://www.sparetheair.com/health.cfm?page=healthoverall. Accessed August 2016.
- Sierra Nevada Arborists. Arborist Report and Native Oak Tree Inventory, Lincoln Meadows Project Site. October 8, 2014.
- State of California, Natural Resources Agency. Safeguarding California: Reducing Climate Risk. July 2014.
- Stantec Consulting Services, Inc. *Midwestern Placer Regional Sewer Project EIR*. February 2013.
- Tolan, Dworak, Division Chief, Lincoln Fire Department. Personal communication [email] with Jacob Byrne, Associate, Raney Planning and Management, May 8, 2017.
- Tolan, Dworak, Division Chief, Lincoln Fire Department. Personal communication with Nick Pappani, Vice President, Raney Planning and Management, January 11, 2017.
- U.S. Environmental Protection Agency. *Climate Change Indicators: Atmospheric Concentrations of Greenhouse Gases*. Available at: https://www.epa.gov/climate-indicators/climate-change-indicators-atmospheric-concentrations-greenhouse-gases. Accessed November 17, 2016.

- U.S. Environmental Protection Agency. *Sources of Greenhouse Gas Emissions*. Available at: http://epa.gov/climatechange/ghgemissions/sources/industry.html. Accessed August 2016.
- United States Department of Agriculture Natural Resources Conservation Service. *Web Soil Survey.* Available at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed October 10, 2016.
- United States Department of Agriculture Natural Resources Conservation Service. Available at: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/tools/?cid=nrcs142p2_0542 26. Accessed October 7, 2016.
- United States Department of Agriculture Natural Resources Conservation Service. *Web Soil Survey*. Available at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed October 10, 2016.
- Unites States Army Corps of Engineers, Sacramento Division. *Wetland Delineation Verification Letter*. August 27, 2015.
- University of California, Davis. *Transportation Project-Level Carbon Monoxide Protocol*. December 1997.
- USEPA. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013. April 15, 2015.
- West Yost Associates. Technical Memorandum: Lincoln Meadows Detention Basin Study. October 6, 2016.
- Western Placer Unified School District. School Facilities Master Plan. June 2014.
- Western Placer Waste Management Authority. *About WPWMA*. Available at: http://www.wpwma.com/about-wpwma/. Accessed November 1, 2016.
- Windmiller, Ric, Registered Professional Archaeologist, Windmiller Consulting, Inc. Personal Communication with Nick Pappani, Vice President of Raney Planning & Management, Inc. August 4, 2016.

Windmiller Consulting, Inc. Lincoln Meadows. Revised April 4, 2016.