INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

FOR THE

WQCF ALTERNATIVE ENERGY DEVELOPMENT – SOLAR PROJECT

MAY 22, 2019

Prepared for:

City of Manteca
1001 West Center Street
Manteca, CA 95337

Prepared by:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762
(916) 580-9818

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

INITIAL STUDY AND
MITIGATED NEGATIVE DECLARATION

FOR THE

MANTECA WQCF
ALTERNATIVE ENERGY PROGRAMS PROJECT

MAY 22, 2019

Prepared for:

City of Manteca
1001 West Center Street
Manteca, CA 95337

Prepared by:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, 95762
(916) 580-9818

Proposed Mitigated Negative Declaration

for the

WQCF Alternative Energy Development – Solar Project

Lead Agency: City of Manteca
1001 West Center Street
Manteca, CA 95337

Project Title: WQCF Alternative Energy Development – Solar Project

Project Location: The project site is located at 2450 W. Yosemite Avenue, in the western portion of the City of Manteca, at the existing City of Manteca Wastewater Quality Control Facility (WQCF). The WQCF is located south of W. Yosemite Avenue, east of the ACE Train right of way and the French Camp Outlet Canal, west of Airport Way, and north of SR 120.

Project Description: The City of Manteca is seeking environmental approval for a 2.5 to 3-megawatt (MW) solar photovoltaic (PV) array at the existing City of Manteca WQCF. This program was not included in the original WQCF Master Plan Update, and were therefore not analyzed within the associated WQCF Masters Plans EIR (EDAW, 2007). The solar PV array would be located to the south of the existing City of Manteca WQCF and would encompass approximately 11.9 acres. There will also be some electrical conduits either at or below grade. A berm would be located along the southern boundary of the solar PV array. Additionally, a temporary construction laydown area and storage area (of approximately 3.9 acres) would be on the eastern side of the City of Manteca WQCF and to the north of the solar PV array. Dirt access roads to and from existing roadways would also be allowed. Although the area covered by the solar panels would be approximately 11.9 acres, the only ground disturbance will be by driven steel H-piles that will support the photovoltaic panels. The installation will be connected to the site's electrical loop.

Findings:

In accordance with the California Environmental Quality Act, City of Manteca has prepared an Initial Study to determine whether the Manteca WQCF Alternative Energy Programs Project may have a significant adverse effect on the environment. The Initial Study and Proposed Mitigated Negative Declaration reflect the independent judgment of City of Manteca staff. On the basis of the Initial Study, City of Manteca hereby finds:

> *Although the proposed project could have a significant adverse effect on the environment, there will not be a significant adverse effect in this case because the project has incorporated specific provisions to reduce impacts to a less than significant level and/or the mitigation measures described herein have been added to the project. A Mitigated Negative Declaration has thus been prepared.*

The Initial Study, which provides the basis and reasons for this determination, is attached and/or referenced herein and is hereby made a part of this document.

_____ _____

Date

Proposed Mitigation Measures:

The following Mitigation Measures are extracted from the Initial Study. These measures are designed to avoid or minimize potentially significant impacts, and thereby reduce them to an insignificant level. The MMRP will describe actions required to implement the appropriate mitigation for each CEQA category including identifying the responsible agency, program timing, and program monitoring requirements. Based on the analysis and conclusions of the Initial Study, the impacts of proposed projects and/or programs would be mitigated to less-than-significant levels with the implementation of the mitigation measures presented below.

Mitigation Measure AES-1*: To the extent feasible, solar panels that are installed shall utilize anti-reflective coatings and incorporate stippling/dimpling, to reduce the effect of daytime glare.*

Mitigation Measure AG-1*: The City will pay the required City agricultural mitigation fee to offset the conversion of Important Farmland. Consistent with Chapter 13.42 of the Manteca Municipal Code, a $2,000 agricultural mitigation fee will be assessed for every acre of Important Farmland that would be developed as part of the proposed project. Consistent with goals of the City's Right to Farm ordinance, this mitigation measure would reduce the occurrence of conflicts between nonagricultural and agricultural land uses from development pressure by preserving agricultural lands located within the project vicinity. The total fee will be calculated by the City of Manteca.*

Mitigation Measure BIO-1*: Prior to the commencement of grading activities or other ground disturbing activities on the project site, the project applicant shall arrange for a qualified biologist to conduct a follow-up preconstruction survey for western burrowing owls. If no owls or owl nests are detected, then construction activities may commence. If burrowing owls or occupied nests are discovered, then the following shall be implemented:*

- *During the breeding season (February 1 through September 1) occupied burrows shall not be disturbed and shall be provided with a 75 meter protective buffer until and unless the SJCOG Technical Advisory Committee (TAC), with the concurrence of the Permitting Agencies' representatives on the TAC; or unless a qualified biologist approved by the Permitting Agencies verifies through non-invasive means that either: 1) the birds have not begun egg laying, or 2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Once the fledglings are capable of independent survival, the burrow can be destroyed. They should only be destroyed by a qualified biologist using passive one-way eviction doors to ensure that owls are not harmed during burrow destruction. Methods for removal of burrows are described in the California Department of Fish and Game's Staff Report on Burrowing Owls (October, 1995)*

- *During the non-breeding season (September 1 through January 31) burrowing owls occupying the project site should be evicted from the project site by passive relocation as described in the California Department of Fish and Game's Staff Report on Burrowing Owls (Oct., 1995)*

Implementation of this mitigation shall occur prior to grading or site clearing activities.

Mitigation Measure CLT-1*: If any prehistoric or historic artifacts, human remains or other indications of archaeological resources are found during grading and construction activities, an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, shall be consulted to evaluate the finds and recommend appropriate mitigation measures.*

- *If cultural resources or Native American resources are identified, every effort shall be made to avoid significant cultural resources, with preservation an important goal. If significant sites cannot feasibly be avoided, appropriate mitigation measures, such as data recovery excavations or photographic documentation of buildings, shall be undertaken consistent with applicable state and federal regulations.*
    - *If human remains are discovered, all work shall be halted immediately within 50 meters (165 feet) of the discovery, the County Coroner must be notified, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in CEQA Section 15064.5(d) and (e) shall be followed.*
    - *If any fossils are encountered, there shall be no further disturbance of the area surrounding this find until the materials have been evaluated by a qualified paleontologist, and appropriate treatment measures have been identified.*

Mitigation Measure NOISE-1*: The following mitigation measures shall be implemented:*

a) *Construction activities (excluding activities that would result in a safety concern to the public or construction workers) shall be limited to between the hours of 7:00 a.m. and 7:00 p.m. Construction activities shall be prohibited on Sundays and federal holidays.*

b) *Construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations.*

c) *Construction equipment staging areas shall be located at the furthest distance possible from nearby noise-sensitive land uses.*

TABLE OF CONTENTS

This page left intentionally blank.

INITIAL STUDY CHECKLIST

PROJECT TITLE

WQCF Alternative Energy Development – Solar Project

LEAD AGENCY NAME AND ADDRESS

City of Manteca – City Hall
1001 West Center Street
Manteca, CA 95337
(209) 456-8000

CONTACT PERSON AND PHONE NUMBER

Mark Houghton, Public Works Director
Public Works Department
City of Manteca
(209) 456-8400

PURPOSE OF THE INITIAL STUDY

An Initial Study (IS) is a preliminary analysis which is prepared to determine the relative environmental impacts associated with a proposed project. It is designed as a measuring mechanism to determine if a project will have a significant adverse effect on the environment, thereby triggering the need to prepare an Environmental Impact Report (EIR). It also functions as an evidentiary document containing information which supports conclusions that the project will not have a significant environmental impact or that the impacts can be mitigated to a "Less Than Significant" or "No Impact" level. If there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, the lead agency shall prepare a Negative Declaration (ND). If the IS identifies potentially significant effects, but: (1) revisions in the project plans or proposals would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and (2) there is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment, then a Mitigated Negative Declaration (MND) shall be prepared.

This Initial Study has been prepared consistent with CEQA Guidelines Section 15063, to determine if the proposed WQCF Alternative Energy Development – Solar Project (project) may have a significant effect upon the environment. Based upon the findings and mitigation measures contained within this report, a Mitigated Negative Declaration (MND) will be prepared.

PROJECT LOCATION AND SETTING

PROJECT LOCATION

The project site is located at 2450 W. Yosemite Avenue, in the western portion of the City of Manteca, at the existing City of Manteca Wastewater Quality Control Facility (WQCF). The WQCF is located south of W. Yosemite Avenue, east of the ACE Train right of way and the French Camp Outlet Canal, west of Airport Way, and north of SR 120.

The project's regional location is shown in Figure 1 and an aerial photo with the boundary of the proposed project improvements is provided in Figure 2.

EXISTING SITE USES

The project site is proximate to the existing City of Manteca Water Quality Control Facility on land owned by the City of Manteca. The proposed solar array would be located on agricultural land that is currently fallow.

SURROUNDING LAND USES

Lands to the north and east of the project site consist primarily of light industrial land uses. There is a trucking facility and an electronics manufacturing facility to the north of the site, beyond W. Yosemite Avenue. Additionally, there are scattered residences located to the east and northeast of the site, beyond the site's immediate boundaries. The land to the south of the site consists of public/quasi-public land uses, including a large Big League Dreams sports parks facility. Vacant land and additional low-density residential uses exist west of the project site, beyond the ACE train railroad track, which runs along the western edge of the project site.

GENERAL PLAN AND ZONING DESIGNATIONS

The project site is currently designated Public/Quasi-Public (PQP) by the City of Manteca General Plan Land Use Designations Map and is zoned Public/Quasi-Public (PQP) by the City's zoning map.

PROJECT DESCRIPTION

The City of Manteca is seeking environmental approval for a 2.5 to 3-megawatt (MW) solar photovoltaic (PV) array at the existing City of Manteca WQCF. This program was not included in the original WQCF Master Plan Update, and were therefore not analyzed within the associated WQCF Masters Plans EIR (EDAW, 2007). The solar PV array would be located to the south of the existing City of Manteca WQCF and would encompass approximately 11.9 acres. There will also be some electrical conduits either at or below grade. A berm would be located along the southern boundary of the solar PV array. Additionally, a temporary construction laydown area and storage area (of approximately 3.9 acres) would be on the eastern side of the City of Manteca WQCF and to the north of the solar PV array. Dirt access roads to and from existing roadways would also be allowed.

Figure 3 shows the proposed project site plan. The solar array would be developed over five areas (Areas A1 through A5, as shown in Figure 3). Although the area covered by the solar panels would be approximately 11.9 acres, the only ground disturbance will be by driven steel H-piles that will support the photovoltaic panels. The installation will be connected to the site's electrical loop.

PROJECT OBJECTIVES

The primary objective of the proposed project is to offset operating energy costs. As of 2016, the WQCF incurred approximately $1,150,000 annually in electric utility costs payable to PG&E. Once completed, the proposed project is anticipated to offset the WQCF's electric costs (City of Manteca).

REQUESTED ENTITLEMENTS AND OTHER APPROVALS

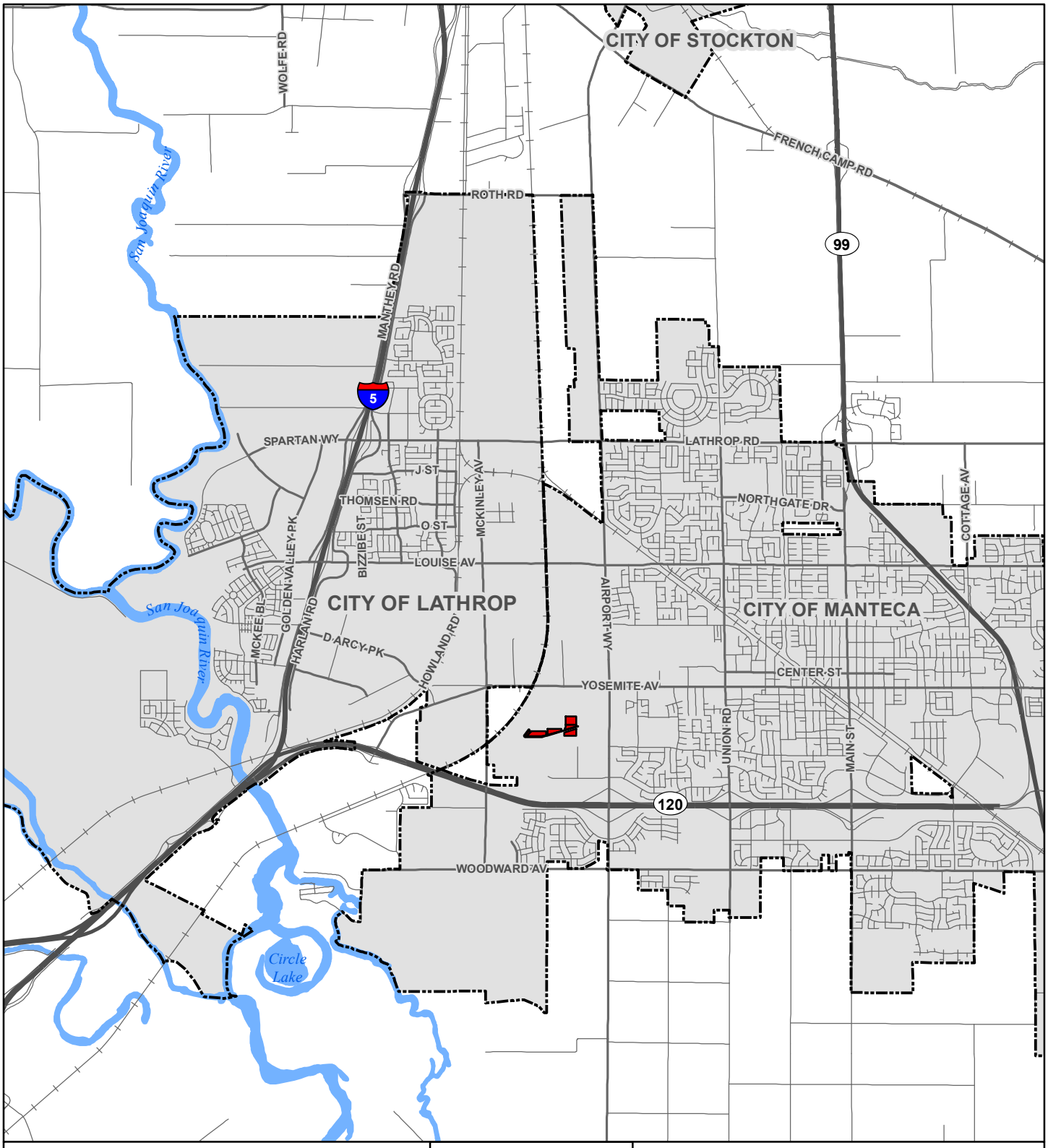
The City of Manteca is the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of the California Environmental Quality Act (CEQA), Section 15050. This document will be used by the City of Manteca to take the following actions:

- Adoption of the Mitigated Negative Declaration (MND)
- Adoption of the Mitigation Monitoring and Reporting Program (MMRP)
- Development Review

The following agencies may be required to issue permits or approve certain aspects of the proposed project:

- Central Valley Regional Water Quality Control Board (CVRWQCB) - Storm Water Pollution Prevention Plan (SWPPP) approval prior to construction activities.
- San Joaquin Valley Air Pollution Control District (SJVAPCD) - Approval of construction-related air quality permits.
- San Joaquin Council of Governments (SJCOG) - Review of project application to determine consistency with the San Joaquin County Multi-Species Habitat, Conservation, and Open Space Plan (SJMSCP).

This page left intentionally blank.



Legend

- Proposed Improvements
- City Boundary

N

0 ½ 1

Miles

Sources: San Joaquin County GIS. Map date: May 24, 2019.

MANTECA WQCF
ALTERNATIVE ENERGY PROGRAMS

Figure 1: Regional Map

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

This page left intentionally blank.

Legend

Proposed Improvements

N

0 250 500

Feet

Sources: San Joaquin County GIS. ArcGIS Online Aerial Imagery map service. Map date: May 24, 2019.

MANTECA WQCF
ALTERNATIVE ENERGY PROGRAMS

Figure 2: Aerial Photo

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

This page left intentionally blank.

Proposed Improvements

- Proposed Laydown
- Solar Array
- Berm

Map date: May 24, 2019.

N

0 100 200

Feet

MANTECA WQCF
ALTERNATIVE ENERGY PROGRAMS

Figure 3: Site Plan

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

This page left intentionally blank.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

None of the environmental factors listed below would have potentially significant impacts as a result of development of this project, as described on the following pages.

	Aesthetics		Agriculture and Forestry Resources		Air Quality
	Biological Resources		Cultural Resources		Energy
	Geology and Soils		Greenhouse Gasses		Hazards and Hazardous Materials
	Hydrology and Water Quality		Land Use and Planning		Mineral Resources
	Noise		Population and Housing		Public Services
	Recreation		Transportation		Tribal Cultural Resources
	Utilities and Service Systems		Wildfire		Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
X	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature Date

EVALUATION INSTRUCTIONS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).
5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a) Earlier Analysis Used. Identify and state where they are available for review.
    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9) The explanation of each issue should identify:
    a) The significance criteria or threshold, if any, used to evaluate each question; and
    b) The mitigation measure identified, if any, to reduce the impact to less than significant.

EVALUATION OF ENVIRONMENTAL IMPACTS

In each area of potential impact listed in this section, there are one or more questions which assess the degree of potential environmental effect. A response is provided to each question using one of the four impact evaluation criteria described below. A discussion of the response is also included.

- Potentially Significant Impact. This response is appropriate when there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries, upon completion of the Initial Study, an EIR is required.
- Less than Significant With Mitigation Incorporated. This response applies when the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact". The Lead Agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.
- Less than Significant Impact. A less than significant impact is one which is deemed to have little or no adverse effect on the environment. Mitigation measures are, therefore, not necessary, although they may be recommended to further reduce a minor impact.
- No Impact. These issues were either identified as having no impact on the environment, or they are not relevant to the project.

ENVIRONMENTAL CHECKLIST

This section of the Initial Study incorporates the most current Appendix "G" Environmental Checklist Form contained in the CEQA Guidelines. Impact questions and responses are included in both tabular and narrative formats for each of the 21 environmental topic areas.

I. AESTHETICS

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?		X		

Responses to Checklist Questions

Response a): Less than Significant. There are no scenic vistas located on or adjacent to the project site, and the project site is not designated as a scenic vista by the City of Manteca General Plan. Therefore, the implementation of the proposed project would not have a significant adverse effect on a scenic vista. This is a **less than significant** impact.

Response b): No Impact. There are two Officially Dedicated California Scenic Highway segments in San Joaquin County, which extend a total length of 16 miles (Caltrans, 2011). The first designated scenic highway is the portion of I-580 between I-205 and I-5, which offers views of the Coast Range to the west and the Central Valley's urban and agricultural lands to the east. The second scenic highway is the portion of I-5 that starts at I-205 and continues south to Stanislaus County, which allows for views of the surrounding agricultural lands and the Delta-Mendota Canal and California Aqueduct.

The project site is not visible from any of the above-referenced scenic highways. Additionally, development of the proposed project would not result in the removal of any trees, rock outcroppings, or buildings of historical significance, and would not result in changes to any of the viewsheds from the designated scenic highways. There is **no impact**.

Response c): Less than Significant. The proposed project would be located on a site that includes the City of Manteca Water Quality Control Facility. Although there are some residences

nearby, the proposed project would install alternative energy infrastructure in an area that is predominantly designed for public/quasi-public uses and is already partially developed for such uses. Therefore, the proposed project would be visually compatible with the surrounding land uses and would not significantly degrade the existing visual quality of the site or the surrounding area. The proposed project would also comply with the current zoning and all other City of Manteca regulations. This is a **less than significant** impact.

Response d): Less than Significant with Mitigation. Daytime glare can occur when the sunlight strikes reflective surfaces such as windows, vehicle windshields and shiny reflective building materials. The proposed project would introduce reflective solar panels across an approximately 11.9-acre area in the southern portion of the WQCF site. These panels have the potential to reflect glare to nearby residences located to the east and/or west of the project site. Although, in general, solar panels produce less glare and reflection than do standard window glass, installation of the solar array may result in increases in daytime glare.

New nighttime lighting may be required for the proposed project. However, the increase in lighting that would be expected to occur from development of the proposed project would be minimal. The existing WQCF already maintains appropriate lighting for nighttime purposes, much of which would also provide necessary lighting for the proposed project area. The lighting that currently exists at the site is in compliance with the City of Manteca Municipal Code and has been previously analyzed in the approved City of Manteca Wastewater Quality Control Facility and Collection System Master Plans Update Project. Furthermore, the City of Manteca addresses light issues on a case-by-case basis during project approval and typically adds requirements as a condition of project approval to shield and protect against light spillover from one property to the next. The limited need for additional lighting to be added to the WQCF site as part of the proposed project, as well as restrictions on lighting as provided in the City Municipal Code and through City additional review, would ensure that the proposed project would not add a new source of substantial light that would adversely affect views in the area.

The implementation of Mitigation Measure AES-1 requires the proposed project to take actions to sufficiently reduce the potential impact of glare from the solar panels on neighboring residents. The implementation of the following Mitigation Measure would reduce this impact to a **less than significant** level.

Mitigation Measures

Mitigation Measure AES-1*: To the extent feasible, solar panels that are installed shall utilize anti-reflective coatings and incorporate stippling/dimpling, to reduce the effect of daytime glare.*

II. AGRICULTURE AND FORESTRY RESOURCES

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?		X		
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1222(g)) or timberland (as defined in Public Resources Code section 4526)?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?		X		

Responses to Checklist Questions

Response a): Less than Significant with Mitigation. The 210-acre WQCF property is designated by the California Department of Conservation Farmland Mapping & Monitoring Program as Urban and Built-up Land and Farmland of Statewide Importance. As shown in Figure 4, portions of the proposed project would be developed on land that is mapped as Farmland of Statewide Importance. Therefore, implementation of the proposed project would cause a loss of Farmland of Statewide Importance. The implementation of Mitigation Measure AG-1 would reduce this impact to a **less than significant** level.

Mitigation Measures

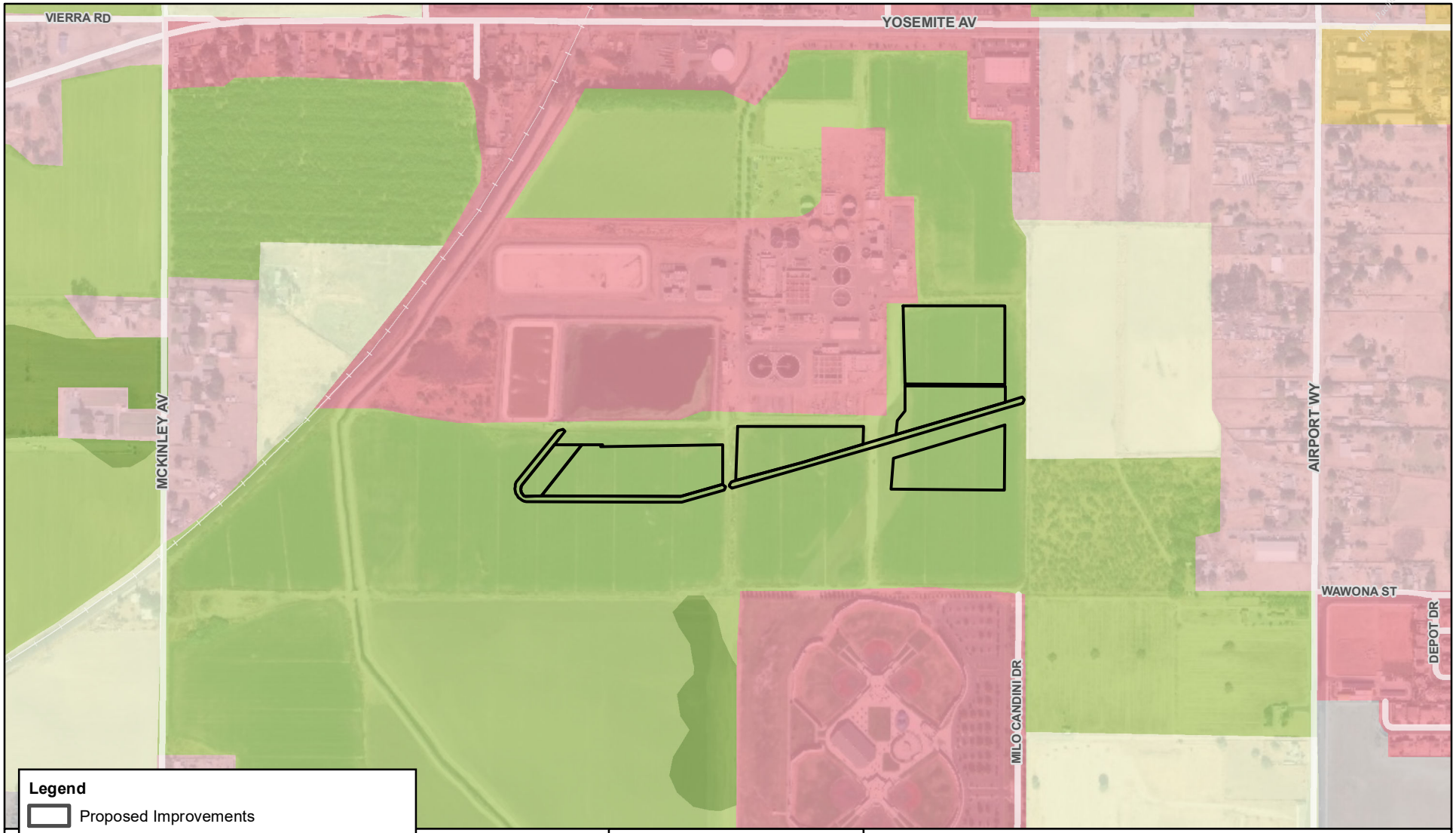
Mitigation Measure AG-1*: The City will pay the required City agricultural mitigation fee to offset the conversion of Important Farmland. Consistent with Chapter 13.42 of the Manteca Municipal Code, a $2,000 agricultural mitigation fee will be assessed for every acre of Important Farmland that would be developed as part of the proposed project. Consistent with goals of the City's Right to Farm ordinance, this mitigation measure would reduce the occurrence of conflicts between nonagricultural and agricultural land uses from development pressure by preserving agricultural lands located within the project vicinity. The total fee will be calculated by the City of Manteca.*

Response b): No Impact. The project site is not under a Williamson Act Contract, nor are any of the parcels immediately adjacent to the project site under a Williamson Act Contract. Therefore, implementation of the proposed project would not conflict with a Williamson Act Contract. The project site is currently zoned Public/Quasi-Public by the City's Zoning Map. As such, the proposed project would not conflict with any agricultural zoning or Williamson Act Contract. There is **no impact**.

Responses c), d): No Impact. The project site is located in an area predominantly consisting of public/quasi-public uses and commercial and residential development. There are no forest resources on the project site or in the vicinity of the project site. Therefore, there is **no impact**.

Response e): Less than Significant. As described under Responses (a) and (b) above, the proposed project is not currently used for agricultural purposes; however, there is Farmland of Statewide Importance at the proposed project site that would be developed. With implementation of Mitigation Measure AG-1, there would be **a less than significant** impact related to this environmental topic.

This page left intentionally blank.



Sources: Farmland Mapping and Monitoring Program, San Joaquin County, 2016; San Joaquin County GIS; ArcGIS Online World Imagery Map Service. Map date: May 24, 2019.

MANTECA WQCF
ALTERNATIVE ENERGY PROGRAMS

Figure 4: Important Farmlands Map

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

This page left intentionally blank.

III. AIR QUALITY

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Conflict with or obstruct implementation of the applicable air quality plan?		X		
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?		X		
c) Expose sensitive receptors to substantial pollutant concentrations?			X	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

Existing Setting

The project site is located within the boundaries of the San Joaquin Valley Air Pollution Control District (SJVAPCD). This agency is responsible for monitoring air pollution levels and ensuring compliance with federal and state air quality regulations within the San Joaquin Valley Air Basin (SJVAB) and has jurisdiction over most air quality matters within its borders.

Responses to Checklist Questions

Responses a), b): Less than Significant with Mitigation. Air quality emissions would be generated during construction of the proposed project and during operation of the proposed project. Operational emissions would come primarily from vehicle emissions from vehicle trips generated by the proposed project and from the use of maintenance equipment.

SJVAPCD Small Project Analysis Level (SPAL)

The SJVAPCD has established CEQA Small Project Analysis Level (SPAL) screening thresholds, which are based on District New Source Review (NSR) offset requirements for stationary sources. Projects that fit the descriptions and are less than the project sizes provided are deemed to have a less than significant impact on air quality due to criteria pollutant emissions and as such are excluded from quantifying criteria pollutant emissions for CEQA purposes. Since the proposed project will be associated with the Manteca Water Quality Control Facility, the Heavy Industry land use category was chosen for the purposes of the SPAL screening thresholds. According to the SPAL screening thresholds, Heavy Industry projects that are less than 920,000 square feet in project size would have a less than significant impact on air quality due to criteria pollutant emissions. The developed portion of the proposed project would be a maximum of approximately 11.9 acres (518,364 square feet), which is smaller than the 920,000 square foot threshold.

Moreover, the proposed project is anticipated to provide a net reduction in criteria pollutant emissions, since the proposed project is a source of renewable energy, which would offset most or all of the WQCF's electricity needs. The proposed project would generate minimal to no new net vehicle trips during its operational phase, except for periodic maintenance activities such as watering (to remove accumulated debris from the solar array). With adherence to applicable regulations (including *SJVAPCD Rule 9510*, as described below), the proposed project would have a less than significant impact with regard to operational emissions. Further discussion of

construction-related air quality impacts and operational air quality impacts are addressed (separately) below.

Construction-Related Emissions

The SJVAPCD's approach to analysis of construction impacts is to require implementation of effective and comprehensive control measures, rather than to require detailed quantification of emission concentrations for modeling of direct impacts. PM_{10} emitted during construction can vary greatly depending on the level of activity, the specific operations taking place, the equipment being operated, local soils, weather conditions, and other factors, making quantification difficult. Despite this variability in emissions, experience has shown that there are a number of feasible control measures that can be reasonably implemented to significantly reduce PM_{10} emissions from construction activities. The SJVAPCD has determined that, on its own, compliance with Regulation VIII for all sites and implementation of all other control measures indicated in Tables 6-2 and 6-3 of the *Guide for Assessing and Mitigating Air Quality Impacts* (as appropriate) would constitute sufficient mitigation to reduce construction PM_{10} impacts to a level considered less than significant.

Construction would result in numerous activities that would generate dust. The fine, silty soils in the project area and often strong afternoon winds exacerbate the potential for dust, particularly in the summer months. Impacts would be localized and variable. Construction impacts would last for a period of several months. The initial phase of project construction would involve grading associated with the installation of the solar array.

Construction activities that could generate dust and vehicle emissions are primarily related to grading, soil excavation, and other ground-preparation activities in order to prepare the project site for the solar array.

Control measures are required and enforced by the SJVAPCD under Regulation VIII. The SJVAPCD considers construction-related emissions from all projects in this region to be mitigated to a less than significant level if SJVAPCD-recommended PM_{10} fugitive dust rules and equipment exhaust emissions controls are implemented. The proposed project would be required to comply with all applicable measures from SJVAPCD Rule VIII.

Operational Emissions

For the purposes of this operational air quality analysis, actions that violate federal standards for criteria pollutants (i.e., primary standards designed to safeguard the health of people considered to be sensitive receptors while outdoors and secondary standards designed to safeguard human welfare) are considered significant impacts. Additionally, actions that violate state standards developed by the CARB or criteria developed by the SJVAPCD, including thresholds for criteria pollutants, are considered significant impacts.

SJVAPCD Rule 9510 Indirect Source Review

District Rule 9510 requires developers of large residential, commercial and industrial projects to reduce smog-forming (NOx) and particulate (PM_{10} and $PM_{2.5}$) emissions generated by their projects. The Rule applies to many project types, including to projects which, upon full build-out, will include more than 25,000 feet of light industrial space or 100,000 square feet of heavy industrial space. Project developers are required to reduce:

- 20 percent of construction-exhaust nitrogen oxides;

- 45 percent of construction-exhaust PM_{10};
- 33 percent of operational nitrogen oxides over 10 years; and
- 50 percent of operational PM_{10} over 10 years.

Developers are encouraged to meet these reduction requirements through the implementation of on-site mitigation; however, if the on-site mitigation does not achieve the required baseline emission reductions, the developer will mitigate the difference by paying an off-site fee to the District. Fees reduce emissions by helping to fund clean-air projects in the District. The proposed project would be required to consult with the SJVAPCD regarding the applicability of Rule 9510 Indirect Source Review including the fees. The proposed project is a clean-air project and may be eligible to receive funds from other projects that have paid into the program. Overall, the proposed project will serve as on offset or reduction in emissions by creating an alternative energy source for use locally. Therefore, the proposed project would have a **less than significant** impact related to these potential impacts.

Response c): Less than Significant. Sensitive receptors are those parts of the population that can be severely impacted by air pollution. Sensitive receptors include children, the elderly, and the infirm. In addition to the existing residences located to the west of the project site, the closest school is a high school (Sierra High School) located approximately 0.8 miles east of the project site.

Implementation of the proposed project would not expose these sensitive receptors to substantial pollutant concentrations. Air emissions would be generated during the construction and operational phases of the project. The construction phase of the project would be temporary and short-term, and the implementation of all State, Federal, and SJVAPCD requirements would greatly reduce pollution concentrations generated during construction activities. Additionally, operational emissions would be minimal and would have a negligible effect on nearby sensitive receptors.

Operation of the proposed project would result in emissions from vehicle trips and the occasional use of additional maintenance equipment. However, as described under Response a-b) above, the proposed project would not generate significant concentrations of air emissions. Therefore, impacts to sensitive receptors would be negligible and this is a **less than significant** impact.

Response d): Less than Significant. Operation of the proposed project would not generate notable odors. The proposed project is solar array, which is compatible with the surrounding land uses. Odors may occur from construction equipment, but these odors would be short-lived. Additionally, mild odors may be generated during construction activities, but this would be temporary. This is a **less than significant** impact and no mitigation is required.

IV. BIOLOGICAL RESOURCES

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
b) 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 California Department of Fish and Game or US Fish and Wildlife Service?				X
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			X	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?			X	

Responses to Checklist Questions

Response a): Less than Significant with Mitigation. Special-status invertebrates that occur within the San Joaquin County region include: longhorn fairy shrimp, vernal pool fairy shrimp, and midvalley fairy shrimp, which requires vernal pools and swale areas within grasslands; and the valley elderberry longhorn beetle, which is an insect that is only associated with blue elderberry plants, oftentimes in riparian areas and sometimes on land in the vicinity of riparian areas. The project site does not contain essential habitat for these special status invertebrates. Implementation of the proposed project would have a **less than significant** impact on these species. No mitigation is necessary.

Special-status reptiles and amphibians that occur within the region include: the western pond turtle, which requires aquatic environments located along ponds, marshes, rivers, and ditches; the California tiger salamander, which is found is grassland habitats where there are nearby seasonal wetlands for breeding; the silvery legless lizard, which is found in sandy or loose loamy soils under sparse vegetation with high moisture content; San Joaquin whipsnake, which requires open, dry habitats with little or no tree cover with mammal burrows for refuge; the Alameda whipsnake, which is restricted to valley-foothill hardwood habitat on south-facing slopes; the

California horned lizard, which occurs in a variety of habitats including, woodland, forest, riparian, and annual grasslands, usually in open sandy areas; the foothill yellow-legged frog, which occurs in partly shaded and shallow streams with rocky soils; the California red legged frog, which occurs in stream pools and ponds with riparian or emergent marsh vegetation; and the western spadefoot toad, which requires grassland habitats associated with vernal pools. The project site does not contain essential habitat for these special status reptiles and amphibians. Implementation of the proposed project would have a **less than significant** impact on these species. No mitigation is necessary.

Numerous special-status plant species are known to occur in the region. Many of these special status plant species require specialized habitats such as serpentine soils, rocky outcrops, slopes, vernal pools, marshes, swamps, riparian habitat, alkali soils, and chaparral, which are not present on the project site. The project site is located in an area that was likely valley grassland prior to human settlement, and there are several plant species that are found in valley and foothills grasslands areas. These species include large-flowered fiddleneck, bent-flowered fiddleneck, big-balsamroot, big tarplant, round-leaved filaree, Lemmon's jewelflower, and showy golden madia. Human settlement has involved a high frequency of ground disturbance associated with the historical farming activities in the region, including the project site. The project site does not contain these special-status plant species. Implementation of the proposed project would have a **less than significant** impact on these species. No mitigation is necessary.

Special-status birds that occur within the region include: tricolored blackbird, Swainson's hawk, northern harrier, and bald eagle, which are associated with streams, rivers, lakes, wetlands, marshes, and other wet environments; loggerhead shrike, and burrowing owl, which lives in open areas, usually grasslands, with scattered trees and brush; and raptors that are present in varying habitats throughout the region.

Swainson's Hawk. The Swainson's hawk is threatened in California and is protected by the California Department of Fish and Wildlife (CDFW) and the Migratory Bird Treaty Act (MBTA). Additionally, Swainson's hawk foraging habitat is protected by the CDFW. Swainson's hawks forage in open grasslands and agricultural fields and commonly nest in solitary trees and riparian areas in close proximity to foraging habitat. The foraging range for Swainson's hawk is ten miles from its nesting location. There are numerous documented occurrences of Swainson's hawk within ten miles of the project site. Although no nesting habitat for this species occur onsite, the project site does serve as foraging habitat for this species. The project will be included in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan SJMSCP), which is the HCP/NCCP administered by SJCOG. SJCOG will determine whether there is a need for incidental take minimization measures; however, it is noted that there is no suitable nesting habitat on the project site. With coverage under the SJMSCP, impacts to Swainson's hawk are **less than significant** and no mitigation is required beyond the incidental take and minimization measures that will be issued by SJCOG.

Burrowing Owls. Burrowing owls are a California Species of Special Concern and are protected by the CDFW and the MBTA. Burrowing owls forage in open grasslands and shrublands and typically nest in old ground squirrel burrows. The project site contains suitable, but not high-quality habitat for burrowing owls. The project site is adjacent to other lands that are currently undeveloped that offer foraging and roosting habitat for wintering or breeding owls. Therefore, there is the potential for burrowing owls to occupy the site. While considered unlikely, due to the presence of urban development surrounding the site, this is considered potentially significant impact. The implementation of Mitigation Measure BIO-1 would ensure that burrowing owls are

not impacted during construction activities. The implementation of Mitigation Measure BIO-1 would ensure a **less than significant** impact to burrowing owls.

Mitigation Measures

Mitigation Measure BIO-1: *Prior to the commencement of grading activities or other ground disturbing activities on the project site, the project applicant shall arrange for a qualified biologist to conduct a follow-up preconstruction survey for western burrowing owls. If no owls or owl nests are detected, then construction activities may commence. If burrowing owls or occupied nests are discovered, then the following shall be implemented:*

- *During the breeding season (February 1 through September 1) occupied burrows shall not be disturbed and shall be provided with a 75 meter protective buffer until and unless the SJCOG Technical Advisory Committee (TAC), with the concurrence of the Permitting Agencies' representatives on the TAC; or unless a qualified biologist approved by the Permitting Agencies verifies through non-invasive means that either: 1) the birds have not begun egg laying, or 2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Once the fledglings are capable of independent survival, the burrow can be destroyed. They should only be destroyed by a qualified biologist using passive one-way eviction doors to ensure that owls are not harmed during burrow destruction. Methods for removal of burrows are described in the California Department of Fish and Game's Staff Report on Burrowing Owls (October, 1995)*

- *During the non-breeding season (September 1 through January 31) burrowing owls occupying the project site should be evicted from the project site by passive relocation as described in the California Department of Fish and Game's Staff Report on Burrowing Owls (Oct., 1995)*

Implementation of this mitigation shall occur prior to grading or site clearing activities.

Responses b): No Impact. There is no riparian habitat or other sensitive natural communities located on the project site. As such, the proposed project would have **no impact** on these resources, and no mitigation is required.

Response c): Less than Significant. A wetland is an area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

There are no wetlands located on the project site. Therefore, this is a **less than significant** impact and no mitigation is required.

Response d): Less than Significant. The CNDDB record search did not reveal any documented wildlife corridors or wildlife nursery sites on or adjacent to the project site. Implementation of the proposed project would have a **less than significant** impact. No mitigation is necessary.

Responses e), f): Less than Significant. The project site is located within the jurisdiction of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan ("Plan" or "SJMSCP") and is located within the Central Zone of the SJMSCP. The San Joaquin Council of Governments (SJCOG) prepared the Plan pursuant to a Memorandum of Understanding adopted

by SJCOG, San Joaquin County, the United States Fish and Wildlife Service (USFWS), the California Department of Fish and Wildlife (CDFW), Caltrans, and the cities of Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton, and Tracy in October 1994. On February 27, 2001, the Plan was unanimously adopted in its entirety by SJCOG.

According to Chapter 1 of the SJMSCP, its key purpose is to "provide a strategy for balancing the need to conserve open space and the need to convert open space to non-open space uses, while protecting the region's agricultural economy; preserving landowner property rights; providing for the long-term management of plant, fish and wildlife species, especially those that are currently listed, or may be listed in the future, under the Federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA); providing and maintaining multiple use Open Spaces which contribute to the quality of life of the residents of San Joaquin County; and, accommodating a growing population while minimizing costs to project proponents and society at large."

In addition, the goals and principles of the SJMSCP include the following:

- Provide a County-wide strategy for balancing the need to conserve open space and the need to convert open space to non-open space uses, while protecting the region's agricultural economy.
- Preserve landowner property rights.
- Provide for the long-term management of plant, fish, and wildlife species, especially those that are currently listed, or may be listed in the future, under the ESA or the CESA.
- Provide and maintain multiple-use open spaces, which contribute to the quality of life of the residents of San Joaquin County.
- Accommodate a growing population while minimizing costs to project proponents and society at large.

In addition to providing compensation for conversion of open space to non-open space uses, which affect plant and animal species covered by the SJMSCP, the SJMSCP also provides some compensation to offset impacts of open space conversions on non-wildlife related resources such as recreation, agriculture, scenic values and other beneficial open space uses. Specifically, the SJMSCP compensates for conversions of open space to urban development and the expansion of existing urban boundaries, among other activities, for public and private activities throughout the County and within Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton, and Tracy.

Participation in the SJMSCP is voluntary for both local jurisdictions and project applicants. Only agencies adopting the SJMSCP would be covered by the SJMSCP. Individual project applicants have two options if their project is located in a jurisdiction participating in the SJMSCP: mitigating under the SJMSCP or negotiating directly with the state and/or federal permitting agencies. If a project applicant opts for SJMSCP coverage in a jurisdiction that is participating under the SJMSCP, the following options are available, unless their activities are otherwise exempted: pay the appropriate fee; dedicate, as conservation easements or fee title, habitat lands; purchase approved mitigation bank credits; or, propose an alternative mitigation plan.

Responsibilities of permittees covered by the SJMSCP include collection of fees, maintenance of implementing ordinances/resolutions, conditioning permits (if applicable), and coordinating with the Joint Powers Authority (JPA) for Annual Report accounting. Funds collected for the SJMSCP are to be used for the following: acquiring Preserve lands, enhancing Preserve lands, monitoring and management of Preserve lands in perpetuity, and the administration of the SJMSCP. Because the primary goal of SJMSCP to preserve productive agricultural use that is compatible with SJMSCP's biological goals, most of the SJMSCP's Preserve lands would be acquired through the purchase of easements in which landowners retain ownership of the land and continue to farm the land. These functions are managed by San Joaquin Council of Governments.

The proposed project is classified as Agricultural Habitat under the SJMSCP. The City of Manteca will process the project through SJCOG to ensure coverage of the project pursuant to the SJMSCP. Therefore, this is a **less than significant** impact and no additional mitigation is required.

V. CULTURAL RESOURCES

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section15064.5?		X		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

Responses to Checklist Questions

Response a), b), c), d): Less than Significant with Mitigation. There are no known prehistoric period cultural resources, unique paleontological or archeological resources known to occur on, or within the immediate vicinity of the project site. Therefore, it is not anticipated that site grading and preparation activities would result in impacts to cultural, historical, archaeological or paleontological resources. There are no known human remains located on the project site, nor is there evidence to suggest that human remains may be present on the project site

However, as with most projects in California that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and historical resource or human remains.

The implementation of Mitigation Measure CLT-1 would require appropriate steps to preserve and/or document any previously undiscovered resources that may be encountered during construction activities, including human remains. Implementation of this measure would reduce this impact to a **less than significant** level.

Mitigation Measures

Mitigation Measure CLT-1: *If any prehistoric or historic artifacts, human remains or other indications of archaeological resources are found during grading and construction activities, an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, shall be consulted to evaluate the finds and recommend appropriate mitigation measures.*

- *If cultural resources or Native American resources are identified, every effort shall be made to avoid significant cultural resources, with preservation an important goal. If significant sites cannot feasibly be avoided, appropriate mitigation measures, such as data recovery excavations or photographic documentation of buildings, shall be undertaken consistent with applicable state and federal regulations.*
    - *If human remains are discovered, all work shall be halted immediately within 50 meters (165 feet) of the discovery, the County Coroner must be notified, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in CEQA Section 15064.5(d) and (e) shall be followed.*

- *If any fossils are encountered, there shall be no further disturbance of the area surrounding this find until the materials have been evaluated by a qualified paleontologist, and appropriate treatment measures have been identified.*

VI. ENERGY

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X	

Responses to Checklist Questions

Response a-b): Less than Significant. Appendix F of the State CEQA Guidelines requires consideration of the potentially significant energy implications of a project. CEQA requires mitigation measures to reduce "wasteful, inefficient and unnecessary" energy usage (Public Resources Code Section 21100, subdivision [b][3]). According to Appendix F of the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, the proposed project would be considered "wasteful, inefficient, and unnecessary" if it were to violate state and federal energy standards and/or result in significant adverse impacts related to project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

The proposed project includes the construction of a 2.5 to 3-megawatt (MW) solar photovoltaic (PV) over approximately 11.9 acres. The proposed project would be a source of renewable energy, which would partially or totally offset the electricity usage of the WQCF. This electricity consumption would offset electricity currently provided by the electric grid (i.e. PG&E). The proposed project would generate minimal to no new net vehicle trips during its operational phase. Construction activities would take several months and is not anticipated to require heavy-duty off-road construction equipment, with the possible exception of forklifts.

The proposed project would be in compliance with all applicable federal, state, and local regulations regulating energy usage. As a result, the proposed project would not result in any significant adverse impacts related to project energy requirements, energy use inefficiencies, and/or the energy intensiveness of materials by amount and fuel type for each stage of the project including construction, operations, maintenance, and/or removal. The proposed project would comply with all existing energy standards, including those established by the City of Manteca, and would not result in significant adverse impacts on energy resources. Therefore, the proposed project would not be expected cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the threshold as described by Appendix F of the CEQA Guidelines. This is a **less than significant** impact.

VII. GEOLOGY AND SOILS

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation***	***Less Than Significant Impact***	***No Impact***
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	

Responses to Checklist Questions

Responses a.i), a.ii): Less than Significant. Although no known active faults cross the project site, and the site is not located within an Alquist-Priolo Earthquake Fault Zone, the proposed project would be located in an area that is seismically active. Given the known faults in the region, the project area can be expected to experience earthquakes ranging from 5.0 to 5.9 in magnitude on the Richter scale, and a maximum intensity of VII or VIII on the Modified Mercalli scale. In addition, significant earthquakes from regional fault systems have affected all of San Joaquin County in the past; therefore, the possibility of some level of regional ground shaking in the future is likely.

The State regulates development in California through a variety of tools that reduce hazards from earthquakes and other geologic hazards. The California Building Code (CBC) contains provisions to safeguard against major structural failures or loss of life caused by earthquakes or other geologic hazards. The City of Manteca's building regulations are included in the City's Municipal Code as chapter 15.04. The proposed project would be required to adhere to the provisions of the CBC, which would reduce hazards from strong seismic ground shaking and other seismic-related effects, including liquefaction.

Since there are no known active faults crossing the project site and the site is not located within an Earthquake Fault Special Study Zone, the potential for ground rupture at the site is considered low. Additionally, since strong seismic ground shaking and seismic-related ground failure would not be expected to occur, and because the project would be required to comply with the CBC requirements, impacts would be **less than significant**.

Responses a.iii), c), d): Less than Significant. Liquefaction normally occurs when sites underlain by saturated, loose to medium dense, granular soils are subjected to relatively high ground shaking. During an earthquake, ground shaking may cause certain types of soil deposits to lose shear strength, resulting in ground settlement, oscillation, loss of bearing capacity, landsliding, and the buoyant rise of buried structures. The majority of liquefaction hazards are associated with sandy soils, silty soils of low plasticity, and some gravelly soils. Cohesive soils are generally not considered to be susceptible to liquefaction. In general, liquefaction hazards are most severe within the upper 50 feet of the surface, except where slope faces or deep foundations are present.

Expansive soils are those that undergo volume changes as moisture content fluctuates; swelling substantially when wet or shrinking when dry. Soil expansion can damage structures by cracking foundations, causing settlement and distorting structural elements. Expansion is a typical characteristic of clay-type soils. Expansive soils shrink and swell in volume during changes in moisture content, such as a result of seasonal rain events, and can cause damage to foundations, concrete slabs, roadway improvements, and pavement sections.

The soils encountered at the site generally consisted of very deep, somewhat excessively drained soils (Delhi loamy sand), which could be subject to subsidence. However, as noted in the Manteca General Plan EIR, the Soil Survey for the area found that subsidence is not a characteristic of the soils that occur within the City, which includes those at the proposed project site. In addition, appropriate design measures would be implemented to avoid, accommodate, replace, or improve any problematic soft or loose soils encountered during construction.

The potential for liquefaction to occur at the project site is considered low. Additionally, the project site is not known to contain expansive soils that would pose a significant risk to structures at the project site. As such, this is a **less than significant** impact and no mitigation is required.

Responses a.iv): Less than Significant. The project site is relatively flat and there are no major slopes in the vicinity of the project site. As such, the project site is exposed to little or no risk associated with landslides. This is a **less than significant** impact and no mitigation is required.

Response b): Less than Significant. Construction and site preparation activities associated with development of the project site include grading and building construction. During the construction preparation process, existing vegetation would be removed to grade and compact the project site, as necessary. Additionally, the proposed soil excavation source area would be an exposed area where loss of topsoil would be likely to occur. As construction occurs, these exposed

surfaces could be susceptible to erosion from wind and water. Effects from erosion include impacts on water quality and air quality. Exposed soils that are not properly contained or capped increase the potential for increased airborne dust and increased discharge of sediment and other pollutants into nearby stormwater drainage facilities. Risks associated with erosive surface soils can be reduced by using appropriate controls during construction and properly revegetating exposed areas.

The proposed project is subject to the requirements of Chapter 13.28 of the Manteca Municipal Code – Stormwater Management and Discharge Control. The purpose of these requirements is to "*establish minimum storm water management requirements and controls to protect and safeguard the general health, safety and welfare of the public residing in watersheds within the city of Manteca".* These requirements are intended to assist in the protection and enhancement of the water quality of watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Federal Water Pollution Control Act (Clean Water Act, 33 USC Section 1251 et seq.), Porter- Cologne Water Quality Control Act (California Water Code Section 13000 et seq.) and National Pollutant Discharge Elimination System ("NPDES") Permit No. CAS000004, as such permit is amended and/or renewed.

Control measures are also required and enforced by the SJVAPCD under Regulation VIII relative to air quality. The SJVAPCD considers construction-related emissions from all projects in this region to be mitigated to a less than significant level if SJVAPCD-recommended PM_{10} fugitive dust rules and equipment exhaust emissions controls are implemented. The proposed project would be required to comply with all applicable measures from SJVAPCD Rule VIII, as described in Section *III (Air Quality)* of this document.

Adherence to BMPs and the requirements outlined in Chapter 13.28 of the City Municipal Code and compliance with SJVAPCD Regulation VII would ensure impacts associated with erosion are **less than significant** and no additional mitigation is required beyond the existing permit and regulatory requirements that are in place.

Response e): No Impact. The project site does not require an alternative wastewater system such as septic tanks. Implementation of the proposed project would have **no impact** on this environmental issue.

Response f): Less than Significant. Known paleontological resources or sites are not located on the project site. Additionally, unique geologic features are not located on the site. The site is currently undeveloped and surrounded by existing or future urban development. As discussed in Section V, Cultural Resources, should artifacts or unusual amounts of stone, bone, or shell be uncovered during construction activities, an archeologist should be consulted for an evaluation. Implementation of Mitigation Measure CLT-1 would require investigations and avoidance methods in the event that a previously undiscovered cultural resource is encountered during construction activities. With implementation of Mitigation Measure CLT-1, impacts to paleontological resources or unique geologic features are not anticipated. This is a ***less than significant*** impact.

VIII. GREENHOUSE GAS EMISSIONS

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?			X	

Existing Setting

Various gases in the Earth's atmosphere, classified as atmospheric greenhouse gases (GHGs), play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring greenhouse gases include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also greenhouse gases, but they are, for the most part, solely a product of industrial activities. Although the direct greenhouse gases CO_2, CH_4, and N_2O occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2011, concentrations of these three greenhouse gases have increased globally by 40, 150, and 20 percent, respectively (IPCC, 2013).

Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors (California Energy Commission, 2018). In California, the transportation sector is the largest emitter of GHGs, followed by the industrial sector (California Energy Commission, 2018).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced 429 million gross metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2016 (California Energy Commission, 2018). By 2030, California would need to reduce its GHG emissions to approximately 259 $MMTCO_2e$ per year, to achieve the statewide GHG emissions reduction target of 40 percent below 1990 levels by 2030 (California Air Resources Board, 2017).

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the

greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Responses to Checklist Questions

Responses a), b): Less than Significant. The primary source of GHGs from the proposed project would result from emissions of CO_2 associated with the construction of the proposed project, and operational worker vehicle trips. The proposed project would require limited grading. However, the solar array would only require driven steel H-piles to support the photovoltaic panels. Additionally, few operational vehicle trips would be generated by the project.

Moreover, with the installation of the proposed project's alternative energy systems, the proposed project would be expected to generate a net reduction in overall GHG emissions. The 2.5 to 3-MW solar array system would generate electricity to offset most or all of the energy required to operate the WQCF per annum. This renewable energy production would be equivalent to the energy required to power 385 to 462 single-family homes (Solar Energy Industries Association, 2015).

The City of Manteca developed a Climate Action Plan (CAP) in October 2013. The CAP provides a baseline emissions inventory for the community, provides forecasts and future year GHG reduction targets, develops a comprehensive set of strategies for reducing GHG emissions community GHG emissions, and describes a set of guidelines for implementation, monitoring, and funding of GHG reduction strategies. The CAP aligns the City of Manteca with the Statewide GHG reduction requirements as set forth in AB32, SB375, and SB32, by providing GHG reduction strategies that are expected to reduce community-wide GHG emissions by to 1990 levels by 2020, and 40% below 1990 levels by 2030. The proposed project aligns with the strategies as described in the City of Manteca CAP and it functions as an implementation project toward achieving the City's Climate Action Plan.

As described above, the proposed project would not generate GHG emissions that would have a significant impact on the environment or conflict with any applicable plans, policies, or regulations. Based on the expected net reduction in GHG emissions that would occur from the development of the proposed project, and since the proposed project would be consistent with the City CAP, impacts related to greenhouse gases are **less than significant**.

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?			X	
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X	

Responses to Checklist Questions

Responses a), b): Less than Significant. The proposed project would develop a solar PV array in an area characterized by mostly industrial types of uses, with some existing residential, commercial and light industrial uses in the regional vicinity. The proposed project also includes a temporary construction lay down & storage area. The proposed project would not routinely transport, use, or dispose of hazardous materials, or present a reasonably foreseeable release of hazardous materials. The proposed project would be required to comply with all federal, state, and local regulations. Compliance with all federal and state regulations and requirements would ensure that the operational phase of the proposed project would not pose a significant hazard to the public or the environment. Implementation of the proposed project would have a **less than significant** impact relative to this issue.

Response c): Less than Significant. The project site is not located within ¼ mile of an existing or proposed school, and would therefore, it would not result in the exposure of any school site to any hazardous materials that may be used or stored at the project site. The closest school in proximity to the project site is Sierra High School, located approximately 0.8 miles east of the

project site. As described under Response a), above, the project would not involve a significant hazard to the public or the environment due to the use, storage, transport or handling of hazardous materials. This is a **less than significant** impact and no mitigation is required.

Response d): Less than Significant. According the California Department of Toxic Substances Control (DTSC) there are no Federal Superfund Sites, State Response Sites, or Voluntary Cleanup Sites on the project site. This is a **less than significant** impact, and no mitigation is required.

Responses e: Less than Significant. The Federal Aviation Administration (FAA) establishes distances of ground clearance for take-off and landing safety based on such items as the type of aircraft using the airport.

The Stockton Metropolitan Airport is the closest airport to the project site, located approximately 6.7 miles to the north of the site. Since the proposed project is less than two miles from an airport, this is a **less than significant** impact, and no mitigation is required.

Response f): No Impact. The General Plan includes policies that require the City to maintain emergency access routes that are free of traffic impediments. The proposed project does not include any actions that would impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. The project involves the development of alternative energy programs on a site that planned for industrial uses, and would not interfere with any emergency response or evacuation plans. Implementation of the proposed project would result in **no impact** on this environmental topic.

Response g): Less than Significant. The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents) and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point, while fuels such as trees have a lower surface area to mass ratio and require more heat to reach the ignition point.

The proposed project would include design measures to ensure that wildfires would not pose a risk to the fueling facilities. This would include concrete or rock materials surrounding the facility, which functions as a defensible material. Additionally, the solar array would have gravel/rock material to inhibit vegetation that could ignite a wildlife. Implementation of the proposed project with these basic defensible design measures would ensure that this impact is **less than significant**.

X. HYDROLOGY AND WATER QUALITY

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			X	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) Result in substantial erosion or siltation on- or off-site;			X	
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;			X	
(iii) 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; or			X	
(iv) Impede or redirect flood flows?			X	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			X	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X	

Responses to Checklist Questions

Responses a): Less than Significant. The proposed project would not add a discernable amount of wastewater to the City's system, and would therefore not produce a volume of wastewater that would significantly affect the City's ability to treat its wastewater. The proposed project would increase the amount of impervious surface located on the project site, however, much of the site will remain pervious. All runoff will be managed to the City's stormwater management standards. Overall, the proposed project would not significantly reduce rainwater ground percolation. The proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality. This is a **less than significant** impact, and no mitigation is required.

Responses b), e): Less than Significant. The proposed project would not result in the construction of new groundwater wells, nor would it increase existing levels of groundwater pumping. The proposed project is not a facility that would place an increased demand on the City's municipal water system or water supply.

Groundwater recharge occurs primarily through percolation of surface waters through the soil and into the groundwater basin. The addition of significant areas of impervious surfaces (such as roads, parking lots, buildings, etc.) can interfere with this natural groundwater recharge process. The solar array would not be considered impervious surface, since rainwater would flow from the solar panels directly to the underlying soil. However, given the relatively large size of the groundwater basin in the Manteca area, the minimal areas of impervious surfaces added as a result of project implementation would not significantly adversely affect the recharge capabilities of the local groundwater basin, or conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. The proposed project would result in **less than significant** impacts related to groundwater and groundwater recharge. No mitigation is required.

Responses c.i-iv): Less than Significant. Much of the rainwater that falls on natural or undeveloped land slowly infiltrates the soil and is stored either temporarily or permanently in underground layers of soil. When the soil becomes completely soaked or saturated with water or the rate of rainfall exceeds the infiltration capacity of the soil, the rainwater begins to flow on the surface of land to low lying areas, ditches, channels, streams, and rivers. Rainwater that flows off of a site is defined as storm water runoff. When a site is in a natural condition or is undeveloped, a larger percentage of rainwater infiltrates into the soil and a smaller percentage flows off the site as storm water runoff.

The infiltration and runoff process is altered when a site is developed. Buildings, roads, and parking lots introduce asphalt, concrete, and roofing materials to the landscape. These materials are relatively impervious, which means that they absorb less rainwater. As impervious surfaces are added to the ground conditions, the natural infiltration process is reduced. As a result, the volume and rate of storm water runoff increases. The increased volumes and rates of storm water runoff may result in flooding if adequate storm drainage facilities are not provided.

Development of the project site would place minimal impervious surfaces on the project site Development of the project site would potentially increase local runoff, and could introduce constituents into storm water that are typically associated with urban runoff. These constituents could include heavy metals (such as lead, zinc, and copper) and petroleum hydrocarbons. Best management practices (BMPs) will be applied to the proposed site development to limit the concentrations of these constituents in any site runoff that is discharged into downstream facilities to acceptable levels.

Additionally, the proposed project is subject to the requirements of Chapter 13.28 of the Manteca Municipal Code – Stormwater Management and Discharge Control. The purpose of these requirements is to "*establish minimum storm water management requirements and controls to protect and safeguard the general health, safety and welfare of the public residing in watersheds within the city of Manteca".*

These requirements are intended to assist in the protection and enhancement of the water quality of watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Federal Water Pollution Control Act (Clean Water Act, 33 USC Section 1251 et seq.), Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.) and National Pollutant Discharge Elimination System ("NPDES") Permit No. CAS000004, as such permit is amended and/or renewed.

Adherence to BMPs and the requirements outlined in Chapter 13.28 of the City Municipal Code would ensure that the project is consistent with all applicable plans and regulations related to

stormwater conveyance and detention, and would ensure that offsite or onsite flooding does not occur during the design storm event. The potential for the project to exceed the capacity of the stormwater system is a **less than significant** impact.

Response d): Less than Significant. The 100-year floodplain denotes an area that has a one percent chance of being inundated during any particular 12-month period. The risk of a site within the 100-year floodplain being flooded in any century is one percent but statistically the risk is almost 40 percent in any 50-year period.

Floodplain zones are determined by the Federal Emergency Management Agency (FEMA) and used to create Flood Insurance Rate Maps (FIRMs). These tools assist cities in mitigating flooding hazards through land use planning. FEMA also outlines specific regulations for any construction, whether residential, commercial, or industrial within 100-year floodplains.

The project site is located within a FEMA designated 100-year floodplain. However, the proposed project does not include any housing and would not include structures that would impede or redirect flood flows. Additionally, the project site is currently protected from the one percent annual chance or greater flood hazard by a levee system.

The safety of dams in California is stringently monitored by the California Department of Water Resources, Division of Safety of Dams (DSD). In the unlikely event of a dam failure, there is the potential that the project site could become inundated with water. The DSD is responsible for inspecting and monitoring each dam in perpetuity. The proposed project would not result in actions that could result in a higher likelihood of dam failure at San Luis Reservoir and New Melones Dams. There will always be a remote chance of dam failure that results in flooding of the City of Manteca, including the project site. However, given the regulations provided in the California Dam Safety Act, and the ongoing monitoring performed by the DSD, the risk of loss, injury, or death to people or structures from dam failure is considered low.

There are no significant bodies of water near the project site that could result in the occurrence of a seiche or tsunami. Additionally, the project site and the surrounding areas are essentially flat, which precludes the possibility of mudflows occurring on the project site. This is a **less than significant** impact and no mitigation is required.

XI. LAND USE AND PLANNING

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Physically divide an established community?				X
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			X	

Responses to Checklist Questions

Response a): No Impact. The project site is surrounded by residential, public/quasi-public, and light industrial land uses, and would not divide an established community. There is **no impact.**

Response b): Less than Significant. The project site is currently designated Public/Quasi-Public (PQP) by the City of Manteca General Plan Land Use Designations Map and is zoned Public/Quasi-Public (PQP).

The proposed uses on the project site are consistent with the General Plan designation and zoning. The project's consistency with other General Plan policies that provide environmental protections are addressed within the relevant sections of this document. This is a **less than significant** impact, and no mitigation is required.

XII. MINERAL RESOURCES

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?			X	
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?			X	

Responses to Checklist Questions

Responses a), b): Less than Significant. As described in the Manteca General Plan EIR, mineral resources were found not to be significant issues requiring further environmental analysis. The California Division of Mines and Geology identified one location within the City of Manteca General Plan Study Area as a Zone MRZ-2, Significant Mineral Resource Zone. However, this designation does not occur within the project site area. Moreover, the proposed project is solar PV array, which would not affect underground resources. Therefore, the project would not result in the loss of availability of a known mineral resource. This impact is considered **less than significant**.

XIII. NOISE

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		X		
b) Generation of excessive groundborne vibration or groundborne noise levels?			X	
c) For a project located within the vicinity of a private airstrip or 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?				X

Responses to Checklist Questions

Response a): Less than Significant with Mitigation. Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local planning criteria or ordinances, or substantially increase noise levels at noise-sensitive land uses.

Existing noise-sensitive land uses in the project area consist primarily of residential dwellings adjacent to the roadways near to the existing WQCF pipelines for the collection system. The nearest residences to the WCQF are residences along W. Yosemite Avenue and Airport Way. The nearest portion of the proposed project, the eastern corner of the solar array, would be installed approximately 1,000 feet west of the nearest residences located along Airport Way.

Operational Noise

The proposed project would not directly generate increased noise beyond those activities commonly found in light industrial and industrial park developments (operational vehicle noise, high-powered washing hoses, etc.). The noise directly generated by the project would not differ substantially from the existing ambient noises currently generated by existing WQCF.

The proposed project may indirectly increase ambient noise levels in the project vicinity through the introduction of additional vehicle trips to area roadways, particularly W. Yosemite Avenue. However, the number of additional vehicles generated by the proposed project would be minimal. This negligible increase in roadway noise would not be perceptible in the project area. Additionally, maintenance activities would not generate a substantial permanent increase in noise in the area. As such, this is a **less than significant** impact.

Construction Noise

Construction activities at the project site would result in temporary increases in noise levels that could expose adjacent residences to increased noise levels and noise nuisances. Construction

activities could create temporary noise levels of up to 90 dBA at distances of 50 feet. Because the project site is surrounded by existing residential neighborhoods, this temporary increase in construction noise is considered potentially significant.

The following mitigation measure (Mitigation Measure NOISE-1) would place restrictions on the time of day that construction activities can occur, and includes additional techniques to reduce noise levels at adjacent residences during construction activities. The implementation of this mitigation measure would reduce this temporary impact to a **less than significant** level.

Mitigation Measures

Mitigation Measure NOISE-1*: The following mitigation measures shall be implemented:*

a) *Construction activities (excluding activities that would result in a safety concern to the public or construction workers) shall be limited to between the hours of 7:00 a.m. and 7:00 p.m. Construction activities shall be prohibited on Sundays and federal holidays.*

b) *Construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations.*

c) *Construction equipment staging areas shall be located at the furthest distance possible from nearby noise-sensitive land uses.*

Response b): Less than Significant. No major stationary sources of groundborne vibration were identified in the project area that would result in the long-term exposure of proposed onsite land uses to unacceptable levels of ground vibration. In addition, the proposed project would not involve the use of any major equipment or processes that would result in potentially significant levels of ground vibration that would exceed these standards at nearby existing land uses. However, construction activities associated with the proposed project would require the use of various tractors, trucks, and potentially jackhammers that could result in intermittent increases in groundborne vibration levels. The use of major groundborne vibration-generating construction equipment/processes (i.e., blasting, pile driving) is not anticipated to be required for construction of the proposed project.

Groundborne vibration levels commonly associated with construction equipment are summarized in Table NOISE-1. Based on the levels presented in Table NOISE-1, groundborne vibration generated by construction equipment would not be anticipated to exceed approximately 0.09 inches per second ppv at 25 feet. Predicted vibration levels would not be anticipated to exceed recommended criteria for structural damage and human annoyance (0.2 and 0.1 in/sec ppv, respectively) at nearby land uses. As a result, short-term groundborne vibration impacts would be considered **less than significant.**

Table NOISE-1: Representative Vibration Source Levels for Construction Equipment

Equipment	*Peak Particle Velocity at 25 Feet (In/Sec)*
Large Bulldozers	0.089
Loaded Trucks	0.076
Jackhammer	0.035
Small Bulldozers	0.003
Source: FTA 2006, Caltrans 2004	

Responses e-f): Less than Significant. The project site is not located within two miles of a private airstrip. The closest private airstrip is Sharpe Army Airfield, located approximately 2.2 miles from the project site (to the north). Additionally, the Stockton Metropolitan Airport is the closest public airport to the project site, located approximately 6.8 miles to the north of the site. The project site is not located within two miles of a public airport. This is a **less than significant** impact, and no mitigation is required.

XIV. POPULATION AND HOUSING

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			X	
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

Responses to Checklist Questions

Response a): Less than Significant. Implementation of the project would result in the construction of a solar array, berms, and a temporary construction lay down and storage area. These alternative energy system improvements would provide an on-site source of energy for some or all of the WQCF's operations. Specifically, the solar array would reduce the WQCF's demand for grid electricity. However, grid-supplied electricity is plentiful; electricity supply is not currently nor projected to be a constraining factor on population growth. Therefore, implementation of the proposed project is unlikely to induce population growth, either directly or indirectly. This is a **less than significant** impact.

Responses b), c): No Impact. There are no existing homes or residences located on the project site. The proposed project would not displace people or housing. There is **no impact** relative to this topic.

XIV. PUBLIC SERVICES

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Would the project 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 public services:				
Fire protection?			X	
Police protection?			X	
Schools?				X
Parks?				X
Other public facilities?				X

Responses to Checklist Questions

Response a.i): Less than Significant. The project area is in the Manteca Fire Department (MFD) service area. As of 2006, MFD's service area covered approximately 60 square miles in southern San Joaquin. The closest fire station to the WQCF site is Fire Station 242, located at 1154 South Union Road, immediately north of State Route (SR) 120 on Union Road, approximately 1.5 miles east of the WQCF site. The proposed project is not expected to place much demand on the MFD based on the type of facilities constructed and the absence of population generation. The Manteca Fire Department would be expected to be able to serve the proposed project without constructing new facilities or hiring additional personnel. Implementation of the proposed project would be a **less than significant** impact.

ii) Police Protection: Police services would be provided to the proposed project area by the Manteca Police Department. The Manteca Police Department is a full-service law enforcement agency and operates out of 1001 West Center Street, Manteca, approximately 1.5 miles east of the WQCF site. The proposed project is not expected to place much demand on the Police Department based on the type of facilities constructed and the absence of population generation. The Manteca Police Department is expected to continue to have sufficient staff to serve the proposed project while maintaining acceptable response times. Implementation of the proposed project would be a **less than significant** impact.

iii) Schools: As described in Section XIII (Population and Housing) of this IS/MND, implementation of the proposed project would not result in discernable population growth within the City of Manteca. Therefore, there would be no substantial adverse physical impact to schools. There is **no impact**.

iv) Parks: As described in Section XIII (Population and Housing) of this IS/MND, implementation of the proposed project would not result in discernable population growth within the City of Manteca. Therefore, there would be no substantial adverse physical impact to parks. There is **no impact**.

v) Other Public Facilities: Other public facilities in the City of Manteca include libraries, hospitals, and cultural centers such as museums and music halls. Since the proposed project

would not generate an increase in population, the proposed project would not increase demand on these facilities. There is **no impact**.

XVI. RECREATION

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

Responses to Checklist Questions

Responses a), b): No impact. The proposed project is the installation of a solar PV array and associated infrastructure at the City of Manteca WQCF and would not generate a discernable increase in population. Therefore, the proposed project would not increase the use of neighborhood and regional parks, nor would the project require the construction or expansion of recreational facilities. There is **no impact** relative to this topic.

XVI. TRANSPORTATION/TRAFFIC

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?			X	
b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?			X	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
d) Result in inadequate emergency access?			X	

Responses to Checklist Questions

Response a), b): Less than Significant. The proposed project would generate construction worker vehicle trips during the construction phase of the project and maintenance vehicle trips during the operational phase of the project. However, the expected increase in traffic to nearby roadways would be miniscule over the lifespan of the proposed project. The construction phase of the project would be short-term in nature and would generate relatively few construction worker vehicles when amortized over the lifespan of the project. The operational phase of the proposed project would generate a small number of maintenance vehicles on a periodic basis, many of which would be maintained on-site, lessening the impact to nearby roadways. The proposed project would not conflict with any program plan, ordinance, or policy that addresses the circulation system within the City of Manteca or the region as a whole. Additionally, the proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). Therefore, the proposed project would have a **less than significant** impact relative to this topic.

Responses c), d): **Less than Significant.** The proposed project would not alter emergency access corridors or increase traffic hazards beyond those that currently exist. The proposed site plan provides adequate access to the project site, which would accommodate emergency vehicles. The proposed project would include access roads and would also connect with the existing Manteca WQCF. Implementation of the proposed project would have a less than significant impact related to emergency access, and would not substantially increase hazards due to any design features or incompatible uses. This is a **less than significant** impact and no mitigation is required.

XVIII. TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?		X		
ii) 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 Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resources to a California Native American tribe.		X		

Responses to Checklist Questions

Responses a), b): Although no tribal cultural resources (TCR) have been documented in the project site, the project is located in a region where significant cultural resources have been recorded and there remains a potential that undocumented archaeological resources that may meet the TCR definition could be unearthed or otherwise discovered during ground-disturbing and construction activities. Examples of significant archaeological discoveries that may meet the TCR definition would include villages and cemeteries. Due to the possible presence of undocumented TCRs within the project site, construction-related impacts on tribal cultural resources would be potentially significant. With implementation of the following mitigation measure, the proposed project would have a ***less than significant*** impact related to tribal cultural resources.

Mitigation Measures

Implement Mitigation Measures CLT-1.

XIX. UTILITIES AND SERVICE SYSTEMS

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Require or result in the relocation or construction of new or expanded water, wastewater or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			X	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments?			X	
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			X	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

Responses to Checklist Questions

Responses a-c): Less than Significant. A limited amount of water would be required for the proposed project. A small amount of non-potable water would be required to periodically clean the solar array panels. Because non-potable water is generated from spillover from the potable water supply system and secondary effluent from the WQCP, adequate non-potable water supplies would be available. Additionally, the proposed project would include a connection to the existing WQCF's electrical loop, which would not generate any significant environmental effects. Natural gas and/or telecommunications facilities would not be developed as part of the project. Implementation of the proposed project would have a **less than significant** impact relative to this topic.

Responses e): Less than Significant. The approximately 800-acre Foothill Sanitary Landfill, owned by San Joaquin County, is the primary disposal facility accepting the City's solid waste. The Foothill landfill receives approximately 810 tons per day. The landfill is permitted to accept up to 1,500 tons per day, and has a permitted capacity of 51 million tons, of which approximately 45 million tons of capacity remains.

The proposed project is an alternative energy project and would develop a solar PV array. The proposed project would not generate solid waste beyond levels normally found in similar developments (i.e. minimal waste would be generated). The proposed project would not generate waste in excess of existing standards or the capacity of the local infrastructure, or conflict with any statutes or regulations related to solid waste. This is **a less than significant** impact.

XX. WILDFIRE

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			X	
d) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			X	
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			X	
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?			X	

Existing Setting

There are no State Responsibility Areas (SRAs) within the vicinity of the Manteca Planning Area. The City of Manteca is not categorized as a "Very High" Fire Hazard Severity Zone (FHSZ) by CalFire. No cities or communities within San Joaquin County are categorized as a "Very High" FHSZ by CalFire. Although this CEQA topic only applies to areas within a SRA or Very High FHSZ, out of an abundance of caution, these checklist questions are analyzed below.

Responses to Checklist Questions

Response a): The project site will connect to the existing Manteca WQCF. The proposed circulation improvements would allow for greater emergency access relative to existing conditions. The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, impacts from project implementation would be considered **less than significant** relative to this topic.

Response b): The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents) and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point. The County has areas with an abundance of flashy fuels (i.e. grassland) in the foothill areas of the eastern and western portion of the County. The project site is located in an area that is predominately agricultural and urban, which is not considered at a significant risk of wildlife. Therefore, impacts from project implementation would be considered **less than significant** relative to this topic.

Response c): The project includes development of infrastructure such as electrical connections to the existing electrical loop located at the Manteca WQCF. The proposed infrastructure

improvements would not significantly exacerbate fire risk. The existing safety protocols at the Manteca WQCF would be sufficient to ensure that the installation of the electrical infrastructure associated with the proposed project would not exacerbate fire risk or otherwise result in temporary or ongoing impacts to the environment. Therefore, impacts from project implementation would be considered **less than significant** relative to this topic.

Response d): The proposed access improvements would allow for greater emergency access relative to existing conditions. The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e. cut and fill). The project site is relatively flat; therefore, the potential for a landslide in the project site is essentially non-existent.

Therefore, impacts from proposed project implementation would be considered **less than significant** relative to this topic.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

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

Responses to Checklist Questions

Response a): Less than Significant. This Initial Study includes an analysis of the project impacts associated with aesthetics, agricultural and forest resources, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation and traffic, and utilities and service systems. The analysis covers a broad spectrum of topics relative to the potential for the proposed project to have environmental impacts. This includes the potential for the proposed project to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. It was found that the proposed project would have either no impact, a less than significant impact, or a less than significant impact with the implementation of mitigation measures. For the reasons presented throughout this Initial Study, the proposed project would not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. With the implementation of mitigation measures presented in this Initial Study, the proposed project would have a **less than significant** impact relative to this topic.

Response b): Less than Significant. This Initial Study includes an analysis of the project impacts associated with aesthetics, agricultural and forest resources, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous

materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation/traffic, and utilities and service systems. The analysis covers a broad spectrum of topics relative to the potential for the proposed project to have environmental impacts. It was found that the proposed project would have either no impact, a less than significant impact, or a less than significant impact with the implementation of mitigation measures. These mitigation measures would also function to reduce the project's contribution to cumulative impacts.

There are no significant cumulative or cumulatively considerable effects that are identified associated with the proposed project after the implementation of all mitigation measures presented in this Initial Study. With the implementation of all mitigation measures presented in this Initial Study, the proposed project would have a ***less than significant*** impact relative to this topic.

Response c): Less than Significant. The construction phase could affect surrounding neighbors through increased air emissions, noise, and traffic; however, the construction effects are temporary and are not substantial. The operational phase could also affect surrounding neighbors through increased noise and traffic; however, mitigation measures have been incorporated into the proposed project, as necessary, that would reduce the impacts to a less than significant level. The proposed project would not cause substantial adverse effects on human beings. Implementation of the proposed project would have a **less than significant** impact relative to this topic.

REFERENCES

Army Corps of Engineers. 1987. Army Corps of Engineers Wetland Delineation Manual.

Barbour and Major 1988. Terrestrial Vegetation of California.

California Air Resources Board. 2017. California 1990 Greenhouse Gas Emissions Level and 2020 Limit. Available: https://www.arb.ca.gov/cc/inventory/1990level/1990level.htm

California Scenic Highway Mapping System (Caltrans). 2011. Last updated September 7, 2011. Available online at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm

California Energy Commission. 2018. California Greenhouse Gas Emission Inventory. Available: https://www.arb.ca.gov/cc/inventory/data/data.htm

City of Manteca. 1991. City of Manteca Comprehensive General Plan. Adopted December 17, 1991.

City of Manteca, 2003. City of Manteca General Plan 2023 Draft EIR.

City of Manteca. 2003. Manteca General Plan 2023 Draft Environmental Impact Report. Certified October 6, 2003.

City of Manteca. 2007. City of Manteca Wastewater Quality Control Facility and Collection System Master Plans Update Project EIR (EDAW, 2007).

City of Manteca. 2013. City of Manteca Climate Action Plan. Adopted October 15, 2013. Available online at: http://www.ci.manteca.ca.us/communitydevelopment/Documents/Final%20Climate%20Action%20Plan.pdf .

City of Manteca. 2019. Manteca Municipal Code. Current through Ordinance O2019-02 and as of March 2019.

Correspondence with the City of Manteca Engineer Bret Swain on December 1, 2015 (City of Manteca, 2015).

Hickman, James C. 1993. Jepson Manual: Higher Plants of California.

Intergovernmental Panel on Climate Change. 2013. "Climate Change 2013: The Physical Science Basis, Summary for Policymakers." Available at: http://www.climatechange2013.org/images/report/WG1AR5_SPM_FINAL.pdf

San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP, 2000). Available online at: http://www.sjcog.org/DocumentCenter/View/5

San Joaquin Valley Air Pollution Control District (SJVAPCD, 2004). SJVAPCD Rule VIII. Available online at: https://www.valleyair.org/rules/1ruleslist.htm#reg8

San Joaquin Valley Air Pollution Control District (SJVAPCD, 2005). Rule 9510 Indirect Source Review (ISR). Available online at: https://www.valleyair.org/rules/currntrules/r9510.pdf

San Joaquin Valley Air Pollution Control District (SJVAPCD, 2017). Small Project Analysis Level (SPAL). Available at: http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI-SPAL.PDF

Sawyer, John and Todd Keeler-Wolf. 1995. A Manual of California Vegetation.

Skinner, Mark W. and Bruce M. Pavlik, Eds. 2001. California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California.

Solar Energy Industries Association, 2015. Accessed on 11/17/2015. Available at: http://www.seia.org/about/solar-energy/solar-faq/how-many-homes-can-be-powered-1-megawatt-solar-energy

State of California General Plan Guidelines. 2017. 2017 Update. Available online at: http://www.opr.ca.gov/planning/general-plan/guidelines.html

U.S. Environmental Protection Agency. 2014. Climate Change Indicators in the United States: Global Greenhouse Gas Emissions. Updated May 2014. Available at: www.epa.gov/climatechange/indicators

This page left intentionally blank.