UC MERCED DOWNTOWN CENTER PROJECT

Final Initial Study and
Mitigated Negative Declaration

The following Initial Study has been prepared in compliance with CEQA.

SCH NO. 2015041087

Prepared By:

University of California, Merced
5200 North Lake Road
Merced, CA 95343

June 2015

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INTRODUCTION

Initial Study

Pursuant to Section 15063 of the *California Environmental Quality Act (CEQA) Guidelines* (Title 14, California Code of Regulations, Sections 15000 et seq.), an Initial Study is a preliminary environmental analysis that is used by the lead agency (the public agency principally responsible for approving or carrying out the proposed project) as a basis for determining whether an Environmental Impact Report, a Mitigated Negative Declaration, or a Negative Declaration is required for a project. The *State CEQA Guidelines* require that an Initial Study contain a project description, description of environmental setting, identification of environmental effects by checklist or other similar form, explanation of environmental effects, discussion of mitigation for significant environmental effects, evaluation of the project's consistency with existing, applicable land use controls, and the name of persons who prepared the study.

The purpose of this Initial Study is to evaluate the potential environmental impacts of the proposed UC Merced Downtown Center project to determine what level of environmental review is appropriate. As shown in the Determination in **Section IV** of this document, and based on the analysis contained in this Initial Study, it has been determined that the proposed project would not result in any significant impacts that cannot be mitigated to less than significant levels. The analysis contained in this Initial Study concludes that the proposed project would result in the following categories of impacts, depending on the environmental resource involved: no impact; less than significant impact; or less than significant impact with the implementation of project-specific mitigation measures. Therefore, preparation of a Mitigated Negative Declaration is appropriate (the Mitigated Negative Declaration is presented in **Appendix A**).

Public and Agency Review

The Initial Study/Proposed Mitigated Negative Declaration was circulated for public and agency review from April 27, 2015 to May 26, 2015. Copies of the document were available for review at the Division of Physical and Environmental Planning. Comments on the Initial Study/Proposed Mitigated Negative Declaration were due by 5:00 PM on May 26, 2015 and could have been sent or emailed to:

Phillip Woods
Director of Physical & Environmental Planning
Physical and Environmental Planning
University of California, Merced
5200 North Lake Road
Merced, California 95343
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During the comment period, comment letters were received from the following agencies:

- Letter A: California Department of Toxic Substances Control (DTSC)
- Letter B: City of Merced

The comment letter from DTSC indicated that if the Campus plans to use State funds for the proposed project, then the Campus is required to comply with the requirements of California Education Code Sections 17210, 17213.1 and 17213.2. If the Campus is not using State funds or is exempt under California Education Code Section 17268, DTSC recommends that the Campus continue to investigate and mitigate risks at the site. In addition, DTSC indicated that the presence of existing, older or former structures may result in potential environmental concerns due to lead from lead-based paint and/or organochlorine pesticides from termiticide applications and polychlorinated biphenyls (PCBs) from electrical transformers, light ballast or window caulking or glazing. The DTSC also indicated that if the project site was previously used for agricultural purposes, contamination due to past use of pesticides and fertilizers may be present on the site. Finally, if environmental concerns do exist on the project site, DTSC stated that the Initial Study/MND would be required to analyze the potential public health and environmental impacts associated with the proposed response action.

The comment letter from the City of Merced requested that the construction staging area be located on a vacant lot and not on an existing parking lot. With regard to planned graveled entrance to the construction staging area, the City of Merced indicated that per San Joaquin Valley Air Pollution Control District guidelines new gravel parking lots or driveways are not allowed in the city. Next, the City of Merced noted the location of two parks that are close to the project site. Finally, the City of Merced stated that it disagrees with the statement in the Initial Study that adequate parking to accommodate the proposed project is available in the vicinity of the project site.

Responses to both letters were prepared and are included in this Final Initial Study.

Organization of the Initial Study

This Initial Study is organized into the following sections.

Section 1 – Project Information: provides summary background information about the proposed project, including project location, lead agency, and contact information.

Section 2 – Project Description: includes a description of the proposed project, including the need for the project, the project's objectives, and the elements included in the project.

Section 3 – Environmental Factors Potentially Affected: identifies what environmental resources, if any, would involve at least one significant or potentially significant impact that cannot be reduced to a less than significant level.

Section 4 – Determination: indicates whether impacts associated with the proposed project would be significant, and what, if any, additional environmental documentation is required.

Section 5 – Evaluation of Environmental Impacts: contains the Environmental Checklist form for each resource and presents an explanation of all checklist answers. The checklist is used to assist in evaluating the potential environmental impacts of the proposed project and determining which impacts, if any, need to be mitigated or to be further evaluated in an EIR.

Section 6 – References: lists references used in the preparation of this document.

Section 7 – Initial Study Preparers: lists the names of individuals involved in the preparation of this document.

Appendices: presents the Mitigated Negative Declaration, the technical studies used in the preparation of this Initial Study, changes to Initial Study text, comments received on the Initial Study and Responses, and the Mitigation Monitoring and Reporting Program for the proposed project.

1. PROJECT INFORMATION

Project title:

UC Merced Downtown Center

Lead agency name and address:

The Regents of the University of California
1111 Franklin Street
Oakland, CA 94607

Contact person and phone number:

Phillip Woods, Director of Physical & Environmental Planning
(209) 349-2561

Project location:

651-655 West 18th Street, Merced, CA.
Assessor's Parcel Number 031-054-22-000

Project sponsor's name and address:

Physical and Environmental Planning
University of California, Merced
5200 North Lake Road
Merced, CA 95343

2. PROJECT DESCRIPTION

2.1 Location

As illustrated in **Figure 1, Regional Location**, the project site is located in the downtown portion of the City of Merced, approximately 60 miles southeast of Stockton and about 50 miles northwest of Fresno. State Route 99 provides regional access to the project site. As shown in **Figure 2, Project Site and Vicinity**, the project site is located at 651-655 West 18th Street on the northeast corner of the intersection of N Street and West 18th Street. The project site is located on Assessor's Parcel Number (APN) 031-054-22-000 and has an area of approximately 37,026 square feet (0.85 acre). The parcel has been purchased by the Campus.

2.2 Existing Conditions

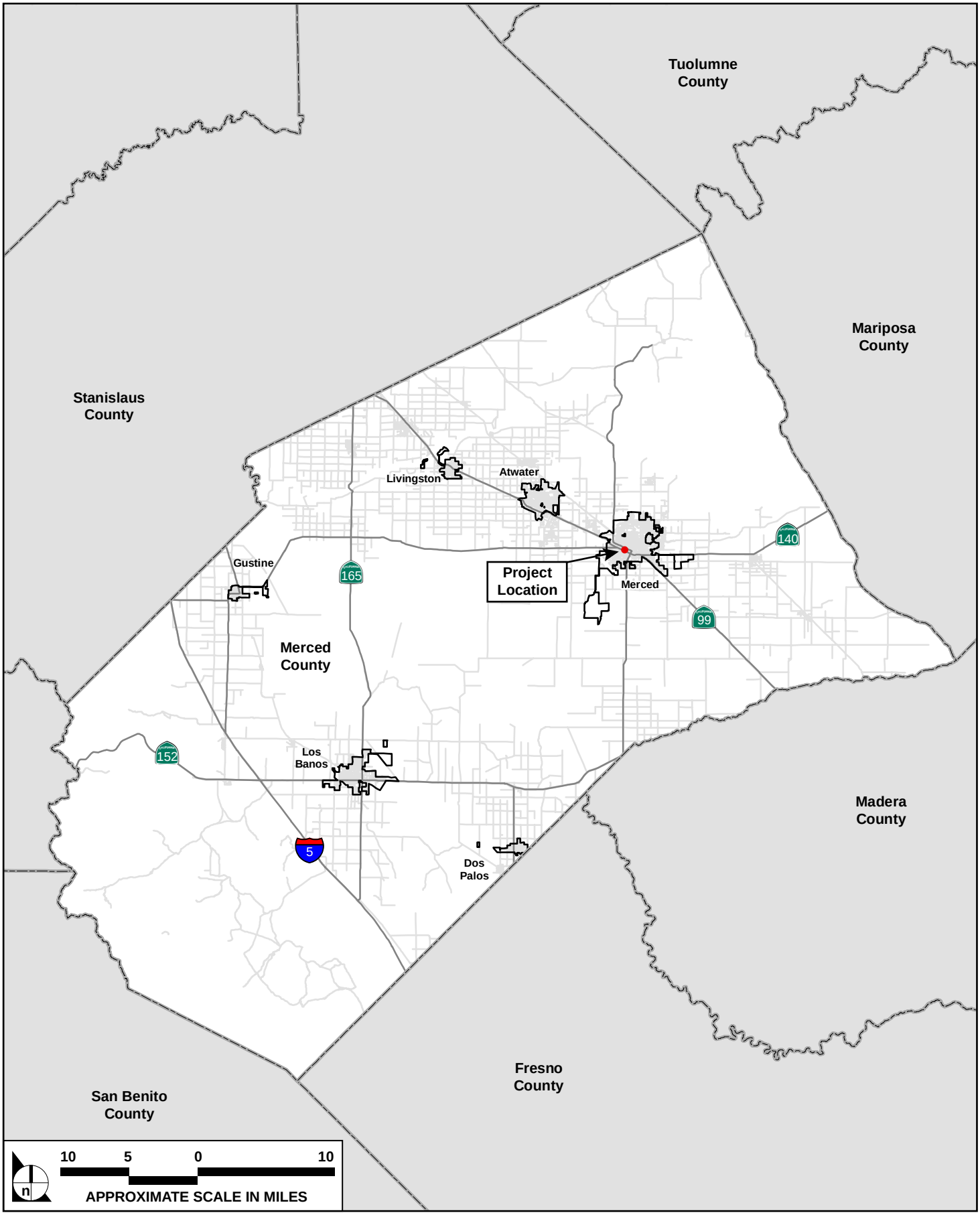
The project site presently consists of a vacant parking lot that is mostly paved. Existing vegetation on the project site consists of one tree at the corner of West 18th Street and N Street as well as ornamental bushes along the West 18th Street and N Street frontages. In addition, street trees are located adjacent to the site along the West 18th Street and N Street frontages.

2.3 Project Features and Operations

UC Merced proposes the construction of an office building in downtown Merced. The proposed project would house the administrative offices of existing academic and administrative programs that presently occupy leased office space at a number of off-campus locations and office space within the Kolligian Library on the UC Merced campus.

The project consists of the proposed building, site improvements, and underground utility connections. The proposed structure would be three stories in height (45 feet) with a light monitor (60 feet in height) in the center of the building that would run nearly the entire length of the building. The building would provide approximately 75,000 gross square feet (gsf) and 62,000 assignable square feet (asf) of building space. The two upper stories would consist of administrative office space while the ground floor would consist of ancillary support space (employee amenities, conference rooms and other flexible meeting spaces). The conceptual floor plan for the ground floor is provided in **Figure 3, Conceptual Ground Floor Plan**, while the conceptual floor plan for one of the upper stories is provide in **Figure 4, Conceptual Floor Plan**. Mechanical equipment, including HVAC, may be located on the roof and would be enclosed to screen the equipment from view and provide noise attenuation. The proposed project would have a Floor Area Ratio (FAR) of 2.7 and provide space for approximately 454 full-time-equivalent (FTE) employees.

The project design will be guided by the UC Merced Design Standards which describe the general design and engineering principles to which the project design is required to comply. These standards establish both design and technical criteria that are classified into three categories: Requirements, Preferred Standards, and Prohibited Items. **Figure 5, Northeast Perspective**, illustrates the conceptual design of the proposed structure looking northeast from the intersection of N Street and West 18th Street.



SOURCE: Impact Sciences, March 2013

FIGURE **1**

Regional Location

0974-006•03/15

SOURCE: Google Inc., March 2015, Imagery Date, July 2011

FIGURE **2**

Project Site and Vicinity

0974.006•03/15

SOURCE: Heller Manus, Architects, April 2015

FIGURE **3**

Conceptual Ground Floor Plan

0974.006•0415

SOURCE: Heller Manus, Architects, April 2015

FIGURE **4**

Conceptual Floor Plan

0974.006•04/15

SOURCE: Heller Manus, Architects, April 2015

FIGURE 5

Northeast Perspective

0974.006•04/15

Primary pedestrian access to the proposed structure would be provided by an entrance located at the northeast corner of West 18th and N Streets with secondary pedestrian access provided by an entrance located off the alleyway that borders the project site to the east. No vehicle access would be provided. UC Merced will provide shuttle service for building occupants. Off-site shuttle loading/unloading areas will be developed in a manner to ensure efficient drop-off while not constricting traffic flow. The proposed project would provide landscaping throughout the development consisting of trees, shrubs, and groundcover. Turf would be limited to a small area along the north side of the building.

The project would connect to existing utilities located on and adjacent to the project site within street right-of-way. No off-site improvements to utilities would be required to serve the project, but off-site utility connections will be required.

The Campus is targeting a Leadership in Energy and Environmental Design (LEED) designation of Gold or higher for the proposed project. The LEED certification would require the proposed project to (1) be energy and water efficient by including efficient appliances and insulating materials; (2) increase storm water infiltration by using detention basins and reducing impermeable surfaces; (3) use low emitting paints and materials during construction, and (4) implement a variety of other sustainable measures. In addition, the proposed project would be required to comply with the UC Policy on Sustainable Practices which establishes goals in nine areas of sustainable practices: green building, clean energy, transportation, climate protection, sustainable operations, waste reduction and recycling, environmentally preferable purchasing, sustainable food service and sustainable water systems.

Construction of the proposed project is expected to begin in winter 2016 and last until fall 2017. Construction activities for the proposed project would include demolition of the existing parking lot, site preparation work, excavation, foundation and utility work, and new building construction. A construction staging area would be located within about a quarter mile of the project site. Although the exact location of the staging area has yet to be determined, a number of potential sites have been identified within a quarter mile of the project site, in areas where no residential or other sensitive land uses are present near these potential sites; the nearest sensitive receptor would be at least 400 feet away from the potential sites. The staging area would be about 1 acre in size and be located on either a parking lot that is minimally used or underutilized or a vacant lot. The staging area would include approximately 100 parking spaces for construction workers, a material laydown area, office trailers, and staging and material storage. The staging area would be fenced, would include security lighting and a graveled entrance to minimize tracking of dirt on city streets. Upon completion of construction, the staging area will be restored to its original condition.

2.4 Project Need

Administrative offices of UC Merced are currently dispersed in several locations. Some of the administrative offices are located in the Kolligian Library on the campus, while other offices are located in a cluster of buildings on Yosemite Avenue and in one leased building in the downtown Merced. Some administrative functions are located at the former Castle Air Force Base. UC Merced leases approximately 36,600 asf of building space off campus within the City of Merced and about 66,500 asf of space at the former Castle Air Force Base to house administrative operations. These satellite offices have created disperse and ineffective administrative operations

and are not considered a cost-effective long term solution. The consolidation of academic and administrative operations within one facility would enhance staff productivity and provide efficient and flexible layouts better suited to a 21st century work environment, thus reducing long term costs and allowing resources to better serve the mission of the University. The proposed project would also create a stronger community presence in downtown Merced.

2.5 Surrounding Land Uses and Environmental Setting

The project site is designated for 'Regional Community Commercial' land uses according to the *Merced Vision 2030 General Plan* and is zoned as 'Central Commercial District' according to the *Merced Zoning Map*. The project site is located in the City's downtown neighborhood which consists of two- and three-story buildings with a compact urban form that features pedestrian friendly amenities. As illustrated in **Figure 2,** the project site is bound by an empty lot and a two story building that houses Merced College – Business Resource Center to the north, a three-level City-owned parking garage with ground floor commercial to the east, West 18th Street and the City's civic center to the south, and N street and parking lots serving existing commercial structures to the west.

2.5 Project Approvals

As a public agency principally responsible for approving or carrying out the proposed project, the University of California is the Lead Agency under CEQA and is responsible for reviewing and certifying the adequacy of the environmental document and approving the proposed project. The University of California Board of Regents (The Regents) will consider this Mitigated Negative Declaration (MND) for adoption and if the MND is adopted, will make a decision on project design approval. The consideration of the proposed project for design approval by The Regents is anticipated to occur in July 2015.

3. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would potentially be affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Land Use	☐ Air Quality	☐ Biological Resources
☐ Aesthetics	☐ Greenhouse Gas Emissions	☐ Geology and Soils
☐ Population and Housing	☐ Wind and Shadow	☐ Hydrology and Water Quality
☐ Cultural and Paleo. Resources	☐ Recreation	☐ Hazards/Hazardous Materials
☐ Transportation and Circulation	☐ Utilities and Service Systems	☐ Mineral/Energy Resources
☐ Noise	☐ Public Services	☐ Agricultural and Forest Resources
		☐ Mandatory Findings of Significance

4. DETERMINATION

On the basis of the initial evaluation that follows:

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

☒ I find that although the proposed project could have a significant effect on the environment, there would not be a significant effect in this case because revisions in the project have been made that would avoid or reduce any potential significant effects to a less than significant level. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment. An ENVIRONMENTAL IMPACT REPORT will be prepared.

Phillip Woods 4.24.15

Signature Date

Phillip Woods
Director of Physical & Environmental Planning

5. EVALUATION OF ENVIRONMENTAL IMPACTS

During the completion of the environmental evaluation, the Campus relied on the following categories of impacts, noted as column headings in the IS checklist. All impact determinations are explained, and supported by the information sources cited.

A) "Potentially Significant Impact" is appropriate if there is substantial evidence that the project's effect may be significant. If there are one or more "Potentially Significant Impacts" for which effective mitigation may not be possible, a Project EIR will be prepared.

B) "Less Than Significant With Mitigation Incorporated" applies where the incorporation of project-specific mitigation would reduce an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." All mitigation measures must be described, including a brief explanation of how the measures would reduce the effect to a less than significant level.

C) "Less Than Significant Impact" applies where the project would not result in a significant effect (i.e., the project impact would be less than significant without the need to incorporate mitigation measures).

D) "No Impact" applies where the project would not result in any impact in the category or the category does not apply. This may be because the impact category does not apply to the proposed project (for instance, the project site is not within a surface fault rupture hazard zone), or because of other project-specific factors.

5.1 Aesthetics

5.1.1 Background

The project site is located in a developed portion of downtown Merced. Direct views of the project site are available from West 18th Street and N Street. Views from these roadways are not expansive. The segment of N Street adjacent to the project site is designated by the *Merced Vision 2030 General Plan* as part of a scenic corridor that extends from 16th Street to the south and the Merced County Courthouse to the north (City of Merced 2012).

5.1.2 Environmental Checklist and Discussion

AESTHETICS Would the project…	Potentially Significant Impact	Less than Significant with Project-level Mitigation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☑
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☑	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☑	☐

DISCUSSION:

a. A scenic vista is generally defined as an expansive view of highly valued landscape as observable from a publicly accessible vantage point. While not a scenic vista, the segment of N Street adjacent to the project site is designated by the *Merced Vision 2030 General Plan* as part of a scenic corridor. The corridor features a dense strand of mature trees and a palm tree-lined median leading north towards the court house. No elements of the proposed project would impact the existing landscape elements or obstruct views along the adjacent portion of N Street. For this reason, the proposed project would have *no impact* with regard to this criterion.

b. The project site is not adjacent to a state scenic highway (CSHP 2015) and does not contain scenic resources as identified in the *Merced Vision 2030 General Plan* or any other land use plans. As a result, the proposed project would have *no impact* with regard to this criterion.

c. Construction of the proposed project would alter the visual character of the project site by placing a three-story office building with a roof-level light monitor and possibly mechanical enclosure screens, on a site that is currently a vacant parking lot. However, the surrounding area is heavily urbanized and developed with two- and three-story structures. The height and mass of the proposed building would be consistent with the height and mass of the existing structures in the surrounding area such as the adjacent three-level parking structure to the east, the adjacent two-story Merced College - Business Center to the of the north, and the three-story Civic Center to the south. Although the project area is an eclectic mix of architectural styles with no particular

design aesthetic or architectural style dominant, the proposed project would go through UC Merced campus design review and would be designed to be compatible with the visual character of the area. **Figure 5, Northeast Perspective**, illustrates the conceptual design of the proposed structure looking northeast from the intersection of N Street and West 18th Street. The proposed project would also include landscaping appropriate for the project's urban location. The construction staging area would consist of a fenced lot with trailers, stored construction materials, equipment, and parked cars. It would be located away from residences in areas that are either commercial or public/semi-public and would appear similar to other staging areas often seen in urban areas. Thus it would have a minimal effect on visual character in its immediate vicinity. In addition, the construction staging area would be temporary. Therefore, the impact of the proposed project with regard to visual character would be *less than significant*.

d. New permanent sources of lighting would be established on the project site with the development of the project that would increase the level of light on the site from current levels. The exterior lighting proposed would be limited to the amount required to safely light the entrance, sidewalks, and other pedestrian areas within the project site. The interior lighting associated with the proposed project would be similar to that emitted by other such structures in the area. For these reasons, the new lighting established on the site will not, therefore, result in substantial increases in light that would affect any light sensitive uses on or near the site. The proposed project would also not include any reflective glass and would not result any glare impacts on nearby pedestrians or autos. The lighting associated with the construction staging area would be temporary and would also be limited to the amount of light necessary to provide an adequate level of security. Furthermore, the staging area would be located in an area where the surrounding uses are commercial or public/semi-public. As a result, the lighting established on the site of the construction staging area would not result in substantial increases in light that would affect any light sensitive uses on or near the area. Other than construction worker vehicles parked on the site during the day which could result in some glare, the construction staging area would not include any reflective materials. This impact is considered *less than significant*.

5.1.3 Cumulative Impacts

According to the Merced Vision 2030 General Plan EIR (General Plan EIR), anticipated future development in the City could have a substantial adverse effect on a scenic vista and/or substantially degrade the existing visual character or quality of the City and its surroundings. In addition, new development in the planning area could potentially result in an incremental contribution to a cumulative light and glare impact. However, with implementation of policies and implementation actions listed in the City's General Plan and mitigation that addresses outdoor lighting, this impact would be reduced to a less than significant level (City of Merced 2011b). No scenic vistas are located in the vicinity of the project site and the proposed project will be designed to be compatible with the existing visual character of downtown Merced. In addition, the proposed project would have no project-level impacts with regard to light and glare. Other development in the vicinity of the project site would be required to implement policies and implementation actions listed in the City's General Plan and mitigation listed in the General Plan EIR. Therefore, cumulative impacts of the proposed project and other development in the vicinity of the project site associated with aesthetics would be reduced to less than significant.

5.2 Agricultural and Forestry Resources

5.2.1 Background

The project site is currently consists of a vacant parking lot and is zoned Central Commercial District (C-C) per the *Merced Zoning Map*. The project site is designated as Urban and Built-Up Land on maps prepared by the California State Department of Conservation pursuant to the Farmland Mapping and Monitoring Program (FMMP) (FMMP 2012).

5.2.2 Environmental Checklist and Discussion

AGRICULTURAL AND FORESTRY RESOURCES Would the project…	Potentially Significant Impact	Less than Significant with Project-level Mitigation	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?	☐	☐	☐	☑
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined by Public Resources Code Section 4526)?	☐	☐	☐	☑
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☑
e) Involve other changes in the existing environment, 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?	☐	☐	☐	☑

DISCUSSION:

a. The project site is not currently used for agriculture, and is not designated as Farmland on maps prepared pursuant to the FMMP. The construction staging area would also be a site within downtown Merced and would not affect any land designated as Farmland. There would be *no impact* with regard to this criterion.

b. As discussed above, the project site is zoned Central Commercial District (C-C) per the *Merced Zoning Map.* No portion of the project site is zoned for agricultural use. In addition, there is no Williamson Act contract applicable to the project site or its vicinity. Therefore, future development on the project site would not conflict with existing zoning for agricultural use or a Williamson Act contract. Similarly, the construction staging area would also be located within downtown Merced and would not conflict with Williamson Act contracts or agricultural zoning. There would be *no impact* with regard to this criterion.

c. As identified in **Item (b)**, above, the project site is zoned Central Commercial District (C-C) per the *Merced Zoning Map*. No portion of the project site is zoned forest land or timber land. The construction staging area would also be located within downtown Merced and would not affect forest or timber land. There would be *no impact* with regard to this criterion.

d. No part of the project site contains forest lands. Furthermore, the surrounding area does not include any forest land or timber land. The construction staging area would also be located within downtown Merced and would not affect forest or timber land. There would be *no impact* with regard to this criterion.

e. Development of the project site would occur in a densely developed urbanized area and there are no agricultural lands near the site. Therefore, future development on the project site would not involve any changes that could directly or indirectly lead to the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. The construction staging area would be used temporarily and would be in an area where indirect effects on agricultural lands are not anticipated. There would be *no impact* with regard to this criterion.

5.2.3 Cumulative Impacts

According to the City of Merced Vision 2030 General Plan EIR, future development in the City of Merced would result in conversion of agricultural land within the City limits to urban uses. In addition, future development within the City could conflict with existing zoning for agricultural use, or a Williamson Act contract. However, even the implementation of policies and implementation actions listed in the City's General Plan and mitigation proposed in the General Plan EIR, these impacts were found significant and unavoidable (City of Merced 2011b). As the project site is located in an existing urban area, no conversion of agricultural land and conflicts with agricultural zoning would occur as a result of the proposed project. Therefore, the proposed project would not make any contribution to the significant and unavoidable cumulative impacts related to agricultural resources identified by the City.

5.3 Air Quality

5.3.1 Background

Regional Setting

The California Air Resources Board (CARB) has divided California into regional air basins according to topographic features. The proposed project is located in Merced County, which is within the San Joaquin Valley Air Basin (SJVAB). The SJVAB, which is approximately 250 miles long and averages 80 miles wide, is the second largest air basin in the state and includes San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, and Tulare Counties and the valley portion of Kern County. The SJVAB is defined by the Sierra Nevada to the east (8,000 to 14,000 feet in elevation), the Coast Range to the west (averaging 3,000 feet in elevation), and the Tehachapi Mountains to the south (6,000 to 8,000 feet in elevation). The valley opens to the sea at the Carquinez Strait where the San Joaquin–Sacramento Delta (Delta) empties into San Francisco Bay.

The primary factors that determine air quality within an air basin or the project area are the locations of air pollutant sources, the amount of pollutants emitted, and meteorological and topographical conditions affecting their dispersion. Atmospheric conditions, including wind speed, wind direction, and air temperature gradients, interact with the physical features of the landscape to determine the movement and dispersal of air pollutants.

Localized air quality can be greatly affected by elevation and topography. For the majority of the San Joaquin Valley, air movement through and out of the region is restricted by surrounding hills and mountains. Although marine air generally flows into the basin from the Delta, the Coast Range hinders wind access into the SJVAB from the west, the Tehachapi Mountains prevent the southerly passage of airflow, and the Sierra Nevada is a significant barrier to the east. These topographic features result in weak airflow in the valley, which becomes vertically blocked by high barometric pressure over the SJVAB. As a result, the majority of the SJVAB is highly susceptible to pollutant accumulation over time. Most of the surrounding mountains are above the normal height of the summer inversion layer.

Ambient Air Quality

Both the federal government and the State of California have established ambient air quality standards for several different pollutants. The US EPA sets National Ambient Air Quality Standards (NAAQS) for the following the seven "criteria" pollutants: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM10 and PM2.5), and lead. California Ambient Air Quality Standards (CAAQS) have been adopted for these pollutants, as well as for sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. California standards are generally more stringent than national standards. The state and national ambient air quality standards for each of the pollutants are summarized in **Table 1, Ambient Air Quality Standards**.

Table 1
Ambient Air Quality Standards

Pollutant	Average Time	State Standard (CAAQS)	Federal Primary Standard (NAAQS)
Ozone	1 hour	0.09 ppm	None
	8 hour	0.070 ppm	0.075 ppm
Nitrogen Dioxide[1]	1 hour	0.18 ppm	0.100 ppb
	annual arithmetic mean	0.030 ppm	0.053 ppm
Carbon Monoxide	1 hour	20 ppm	35 ppm
	8 hour	9 ppm	9 ppm
Sulfur Dioxide[2]	1 hour	0.25 ppm	0.075 ppb
	24 hour	0.04 ppm	None
Respirable Particulate Matter (PM10)[3]	24 hour	50 μg/m^3	150 μg/m^3
	annual arithmetic mean	20 μg/m^3	None
Fine Particulate Matter (PM2.5)[3]	24 hour	None	35 μg/m^3
	annual arithmetic mean	12 μg/m^3	12 μg/m^3
Lead[4,5]	30-day average	1.5 μg/m^3	None
	Calendar quarter	None	1.5 μg/m^3
Visibility-Reducing Particles[6]	8 hour	Reduction of visual range to less than 10 miles	None
Sulfates	24 hour	25 μg/m^3	None
Hydrogen Sulfide	1 hour	0.03 ppm	None
Vinyl Chloride[4]	24 hour	0.01 ppm	None

Source: California Air Resources Board, 2013
μg/m^3 = microgram per cubic meter.
ppm = parts per million by volume.
ppb = parts per billion by volume

[1] *To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.*

[2] *On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.*

[3] *On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 μg/m^3 to 12.0 μg/m^3. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 μg/m^3, as was the annual secondary standard of 15 μg/m^3. The existing 24-hour PM10 standards (primary and secondary) of 150 μg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over three years.*

[4] *The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.*

[5] *The national standard for lead was revised on October 15, 2008 to a rolling three-month average. The 1978 lead standard (1.5 μg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.*

The US EPA and CARB designate air basins as being in "attainment" or "nonattainment" for each of the criteria pollutants. Areas that do not meet the standards shown in **Table 1** are classified as nonattainment areas (see **Table 2, San Joaquin Valley Air Basin Attainment Status**). Nonattainment air basins are ranked (marginal, moderate, serious, severe, or extreme) according to the degree of nonattainment. Attainment areas are those with air quality that is better than the standards. The determination of whether an area meets the state and federal standards is based on air quality monitoring data. Some areas are unclassified, which means insufficient monitoring data for determining attainment or nonattainment is available. Unclassified areas are typically treated as being in attainment. Because the attainment/nonattainment designation is pollutant specific, an area may be classified as nonattainment for one pollutant and attainment for another. Similarly, because the state and federal standards differ, an area could be classified as attainment for the federal standards of a pollutant and as nonattainment for the state standards of the same pollutant.

Table 2
San Joaquin Valley Air Basin Attainment Status

Pollutant	California Attainment Status	Federal Attainment Status
Ozone (1-hour)	Nonattainment/severe	No federal standard (formerly classified as extreme)
Ozone 8-hour	Nonattainment	Nonattainment/serious (applying for extreme)
PM10	Nonattainment	Attainment
PM2.5	Nonattainment	Attainment for 24-hour standards Nonattainment for annual standards
Carbon Monoxide	Unclassified/attainment	Unclassified/attainment
Nitrogen Dioxide	Attainment	Unclassified/attainment
Lead	Attainment	Unclassified/attainment
Sulfur Dioxide	Attainment	Unclassified/attainment
Sulfates	Attainment	No federal standard
Hydrogen Sulfide	Unclassified	No federal standard

Source: San Joaquin Valley Air Pollution Control District, 2015

As shown above in **Table 2**, the air basin is in severe nonattainment for the state 1-hour ozone standard, nonattainment for the state 8-hour ozone standard, serious nonattainment for the federal 8-hour ozone standard (waiting to reclassify as "extreme"), nonattainment for state PM10, nonattainment for state PM2.5, nonattainment for federal annual PM2.5 standard, and attainment/unclassified for federal and state standards for all other pollutants.

Regional Air Quality Regulations

The San Joaquin Valley Air Pollution Control District (SJVAPCD) has jurisdiction over most air quality matters within the SJVAB. The district regulates most air pollutant sources in the air basin, maintains ambient air quality monitoring stations at numerous locations throughout the air basin, and prepares the air quality management/attainment plans for the SJVAB that are required under the federal and California Clean Air Acts.

SJVAPCD Air Quality Plans

As shown in **Table 2**, the SJVAB is in nonattainment for the federal standards for ozone (8-hour) and PM2.5. The air basin is also in nonattainment for the state standards of ozone (1-hour), ozone (8-hour), PM10, and PM2.5. Therefore, the district has prepared attainment plans for the SJVAB in order to demonstrate achievement of the state and federal ambient air quality standards for ozone, PM10, and PM2.5. The most recent plans include:

- *2013 Plan for the Revoked 1-Hour Ozone Standard*
- *2007 Ozone Plan*
- *2007 PM10 Maintenance Plan and Request for Redesignation*
- *2012 PM2.5 Plan*
- *2008 PM2.5 Plan*

The SJVAPCD must continuously monitor its progress in implementing these attainment plans and must periodically report to CARB and the US EPA. It must also periodically revise its attainment plans to reflect new conditions and requirements in accordance with schedules mandated by the federal Clean Air Act and the California Clean Air Act.

SJVAPCD Rules and Regulations

The SJVAPCD's primary means of implementing its attainment plans is through its adopted rules and regulations. The proposed project would be subject to the following rules adopted by the SJVAPCD that are designed to reduce and control pollutant emissions throughout the basin.

- **Regulation VIII (Fugitive Dust PM10 Prohibitions)** - Rules 8011–8081 are designed to reduce PM10 emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and track out, landfill operations, etc.

- **Rule 9510 (Indirect Source Review)** – This rule, also known as the Indirect Source Rule (ISR), took effect March 1, 2006. The purpose of Rule 9510 is to reduce emissions of NOx and PM10 from new development in San Joaquin valley including both construction and operational emissions. This rule requires specific percentage reductions in estimated project emissions for both construction and operation, or the payment of off-site mitigation fees if the required reductions cannot be met on the project site. The rule applies to development projects that include:

  - 50 residential units,
  - 2,000 square feet (sf) of commercial space,
  - 25,000 sf of industrial space,
  - 20,000 sf of medical office space,
  - 39,000 sf of general office space,
  - 9,000 sf of educational space, 10,000 sf of government space,

– 20,000 sf of recreational space, or

– 9,000 sf of uncategorized space.

During construction, exhaust emissions from construction equipment of NOx and PM10 are to be reduced by 20 percent and 45 percent, respectively, compared to the statewide average. Operational emissions of NOx and PM10 are to be reduced by 33.3 percent and 50 percent, respectively, of the project's baseline for a period of 10 years. Based on the above criteria, the project would be subject to Rule 9510.

Sensitive Receptors

Certain populations, such as children, the elderly, and persons with preexisting respiratory or cardiovascular illness, are particularly sensitive to the health impacts of air pollution. For purposes of CEQA, the SJVAPCD considers a sensitive receptor to be a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools.

There are no sensitive receptors located in the immediate vicinity of the project site. The closest sensitive receptors to the project site are residential uses located over 700 feet to the northwest while the closest sensitive receptors to the construction staging area would be at least 400 feet away.

5.3.2 Environmental Checklist and Discussion

AIR QUALITY Would the project…	Potentially Significant Impact	Less than Significant with Project-level Mitigation	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☑	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☑	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☑	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☑	☐

DISCUSSION:

a. Because of the region's non-attainment status for ozone, PM2.5, and PM10, if the project-generated emissions of either of the ozone precursor pollutants (i.e., ROG and NOx) or PM10 would exceed the SJVAPCD's significance thresholds, then the project uses would be considered to conflict with the attainment plans. In addition, if the project uses would result in a change in land use and corresponding increases in vehicle miles traveled, they may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

As discussed in **Item (b)**, below, estimated construction and operational emissions associated with the proposed project would not exceed the SJVAPCD's significance thresholds for ROG, NOx, or PM10. In addition, as discussed in **Item 15.10(b)**, below, the project site is designated Regional Commercial by the City's General Plan. This designation is intended to provide community commercial centers and would allow development to be built at a FAR of 3.5 to 6.0. Although the proposed project would develop a land use at the project site that is not the designated land use in the City's General Plan for this parcel, with an FAR of 2.7, the project would develop the site less intensely than the use provided in the General Plan and result in fewer vehicle miles traveled that previously planned for the site.[1] Therefore the project is accounted for in regional emissions inventories. As a result, the project uses would not conflict with emissions inventories contained in regional air quality attainment plans and would not result in a significant contribution to the region's air quality non-attainment status. This impact is *less than significant*.

b. Implementation of the proposed project would result in short-term (i.e., construction) and long-term (i.e., operational) air quality impacts. The SJVAPCD has established air quality significance thresholds that can be used by a lead agency to determine whether air quality impacts from implementing proposed projects will be significant. These thresholds are contained in the SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI). If project-specific emissions would exceed any of the mass emission thresholds listed in **Table 3, SJVAPCD Air Quality Mass Significance Thresholds**, the impact from the emissions of the specific pollutant will be considered a significant impact.

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1 Based on an allowable FAR of 3.5 to 6.0, approximately 126,550 to 216,950 square feet of commercial space could be constructed on the 36,155 square foot project site. Based on the Institute of Transportation Engineers *Trip Generation*, 9th Edition land use code 820 (Shopping Center), commercial space on the project site could generate up to 9,320 daily vehicle trips (42.94 trips/1,000 square feet X 216,950 square feet). As discussed in Item 15.16(a), below, the proposed project would 1,586 daily vehicle trips, which is far below the number of trips that could be generated if the project site were to be developed with commercial uses.

Table 3
SJVAPCD Air Quality Mass Significance Thresholds

Pollutant	Construction/Operation
NOx	10 tpy
ROG	10 tpy
PM10	15 tpy
PM2.5	15 tpy
SOx	27 tpy
CO	100 tpy

Source: San Joaquin Valley Air Pollution Control District 2015
tpy = tons per year

The California Emissions Estimator Model (CalEEMod) was used to estimate the construction and operational emissions that could result from the implementation of the proposed project. CalEEMod is a program that calculates air pollutant emissions from construction and operation of land development projects. It incorporates the California Air Resources Board EMFAC2007 model for on-road vehicle emissions and the OFFROAD2007 model for off-road vehicle emissions. The model also incorporates factors specific to the project region, such as vehicle fleet mixes. The model can analyze emissions that would occur during different phases of construction, such as grading and building construction, concurrently or separately. This proposed project would be constructed in a single phase beginning in winter 2016 and continuing through fall 2017.

Construction

Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but possess the potential to result a significant air quality impact. The construction of the proposed project would result in the temporary air pollutant emissions resulting from site grading and motor-vehicle exhaust from construction equipment and worker trips, as well as the movement of construction equipment, especially on unpaved surfaces. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities.

Table 4, Estimated Construction Emissions, identifies the average daily emissions of each pollutant during each calendar year of project construction. Construction emissions include all emissions associated with the operation of construction equipment, grading and trenching activities, construction worker trips, on-road diesel trucks, paving, and architectural coatings and finishing.

Table 4
Estimated Construction Emissions (tons per year)

	NOx	ROG	PM10	PM2.5	CO	SOx
2016	1.98	0.22	0.18	0.14	1.59	0
2017	1.25	4.21	0.10	0.08	1.04	0
Maximum Emissions in Any Year	1.98	4.21	0.18	0.14	1.59	0
Significance Thresholds	**10**	**10**	**15**	**15**	**100**	**27**
Exceedance?	No	No	No	No	No	No

*Source: Impact Sciences, Inc. Emission calculations are provided in **Appendix B**.*

As shown in **Table 4**, construction of the proposed project would not result in emissions that would exceed the applicable SJVAPCD thresholds of significance for construction emissions. The impact from criteria air pollutant emissions during project construction would be *less than significant*. Furthermore, the proposed project is required by law to comply with SJVAPCD Regulation VIII, which lists dust control measures that projects are required to implement to reduce NOx and PM10 exhaust emissions from project construction by 20 percent and 45 percent, respectively, in accordance with SJVAPCD Rule 9510.

Operation

Operational, or long-term, emissions occur over the life of the project. Operational emissions include mobile and area source emissions. Area source emissions are from consumer products, heaters that consume natural gas, gasoline-powered landscape equipment, and architectural coatings (painting for building maintenance). Mobile emissions are emitted by motor vehicles used by the building occupants to travel to and from the site and are the largest single long-term source of air pollutants associated with the project. **Table 5, Estimated Operational Emissions**, shows the pollutant emissions associated with project operations.

Table 5
Estimated Operational Emissions

	Emissions in Pounds per Day					
Emissions Source	**ROG**	**NOx**	**PM10**	**PM2.5**	**CO**	**SOx**
Mobile Sources	0.62	2.04	0.60	0.18	7.83	0.01
Area Sources	0.35	0.05	0	0	0.04	0
Annual Emissions Total	0.97	2.09	0.60	0.18	7.87	0.01
Significance Threshold	**10**	**10**	**15**	**15**	**100**	**27**
Exceedance?	No	No	No	No	No	No

*Source: Impact Sciences, Inc. Emission calculations are provided in **Appendix B**.*

As shown in **Table 5**, operation of the proposed project would not result in emissions that would exceed the applicable SJVAPCD thresholds of significance for operational emissions. The impact

from criteria air pollutant emissions during project operation would be *less than significant*. Furthermore, the proposed project is required by law comply with SJVAPCD Rule 9510 and either reduce NOx and PM10 emissions from operation by 33.3 percent and 50 percent, respectively, or pay a fee that would be used by the SJVAPCD to reduce emissions elsewhere.

c. As described in **Item (b)**, above, the proposed project would result in temporary increases in air pollutant emissions due to construction activities and permanent increases in air pollutant emissions during operation. However, the proposed project would not result in emissions that would exceed the applicable SJVAPCD thresholds of significance for construction or operational emissions. As a result, increases of temporary and long-term air pollutant emissions would not result in a cumulatively considerable net increase of criteria pollutants for which the project region is in nonattainment status for federal or state ambient air quality standards. This impact would be *less than significant*.

d. The proposed project would not expose sensitive receptors to substantial concentrations of carbon monoxide, diesel particulate matter, or hazardous pollutants, as discussed below.

Carbon Monoxide Emissions

The pollutant with the greatest potential for resulting in substantial concentrations that could affect sensitive receptors would be carbon monoxide. Generally speaking, increased traffic can result in excessive congestion at intersections, which results in prolonged idle times and localized increases in carbon monoxide emissions. Under GAMAQI, a project may be considered to have a potentially significant impact related to CO if it meets one of the following conditions:

- A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F.

- A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity.

As discussed in **Section 15.16, Transportation/Traffic**, below, the intersection of Martin Luther King, Jr. and 18th Street is the only study area intersection that currently operates at LOS F. However, project traffic would add only about one second of delay to this intersection under project and cumulative conditions, which is below the City's significance criteria for a traffic impact. Therefore, the proposed project would not substantially worsen the operations at this intersection, and based on the GAMAQI criteria, the CO impact of the proposed project is considered *less than significant*.

Air Toxics Emissions

Project construction would likely generate increased diesel particulate emissions in the vicinity of the project site. Diesel particulate matter is considered an air toxic. However, as shown in **Table 4** above, PM2.5 exhaust emissions, which include diesel particulate, are small in total when compared with the GAMAQI significance thresholds. Construction emissions of diesel particulate matter are temporary, and would cease once project construction is completed. Furthermore, there are no sensitive receptors located within the immediate vicinity of the project site or the construction staging area. The closest sensitive receptors to the project site are residential uses located over 700 feet to the northwest while the closest sensitive receptors to the

construction staging area would be at least 400 feet from the area. For these reasons, the proposed project would not expose sensitive receptors to substantial pollutant concentrations of air toxics during construction, and this impact would be *less than significant*.

Project operations by themselves would not generate any significant emissions of air toxics. The project proposes office uses, and neither activity is expected to generate any emissions considered toxic during their operations, other than occasional deliveries from trucks using diesel fuel. For this reason, the proposed project would not expose sensitive receptors to substantial concentrations of hazardous pollutants during operation, and this impact would be *less than significant*.

e. Construction of the proposed project would require the use of diesel-fueled equipment and architectural coatings, both of which have an associated odor. However, these odors would be short-term and temporary and would not be pervasive enough to affect a substantial number of people nor would they be objectionable. Routine operation of the proposed project would not involve activities that typically produce odors such as wastewater treatment, manufacturing, agriculture, etc. Occasional use of maintenance products on the project site could produce localized odors, but they would be temporary and limited in area. Consequently, short-term construction and long-term operation of the proposed project would not create objectionable odors that could affect a substantial number of persons, nor would the project expose project site occupants to substantial odors, and the impact would be *less than significant*.

5.3.3 Cumulative Impacts

The SJVAB is currently designated as a nonattainment area for state and national ozone standards and particulate matter standards. Past, present and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. No single project by itself would be sufficient in size to result in regional nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulative adverse air quality impacts. The project-level thresholds for criteria air pollutants are based on levels by which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants. Therefore, because the proposed project's construction and operational emissions analyzed above would not exceed the project-level thresholds for criteria air pollutants, the proposed project would not conflict with an air quality attainment or maintenance plan that provides specific requirements to avoid or substantially lessen a cumulative problem within a geographic area in which the project is located. The cumulative impact with regard to criteria air pollutants would be *less than significant.*

5.4 Biological Resources

5.4.1 Background

The project site is located in an urban area and is surrounded by existing commercial and public/semi-public uses. This project site consists of a vacant parking lot and is mostly paved. Existing vegetation on the project site consists of one tree at the corner of West 18th Street and N Street intersection as well as ornamental bushes along the West 18th Street and N Street frontages. In addition, street trees are located adjacent to the site along the West 18th Street and N Street frontages.

The construction staging area would also be located in downtown Merced and would be surrounded by existing commercial and public/semi-public uses. Similar to the project site, the construction staging area would consist of a vacant dirt lot or parking lot with a few trees and some landscaping.

5.4.2 Environmental Checklist and Discussion

BIOLOGICAL RESOURCES Would the project…	Potentially Significant Impact	Less than Significant with Project-level Mitigation	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 Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	☐	☐	☐	☑
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☑
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☑	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

DISCUSSION:

a. The project site and construction staging area would be located within a developed area of the City. The project site is currently occupied by a vacant parking lot while the construction staging area would consist of either a vacant dirt lot or a parking lot. According to *Merced Vision 2030 General Plan*, several special-status plant and animal species are or may be present in the Merced area (City of Merced 2012); however, none of these are considered likely to occur on the project site or construction staging area due to lack of suitable habitat. Existing vegetation on the project site is limited to street trees and other landscaping on and adjacent to the West 18th Street and N Street frontages; they are all introduced landscaping species that are not native to the project area. Existing vegetation on the construction staging area would also consist of trees and landscaping that are not native to the area. A search of the California Natural Diversity Database (CNDDB) was conducted of the project site and a 0.5-mile radius in April 2015. Based on this search, two rare plant species (forked hare-leaf [*Lagophylla dichotoma*] and round-leaved filaree [*Erodium macrophyllum*]) could occur in this area of the City of Merced. However, appropriate habitat for these plant species are cismontane woodland and valley and foothill grassland, which do not exist on the project site or on any other vacant parcel in the downtown area. Therefore, the proposed project would not affect special-status plant species. The CNDDB search also indicated that two wildlife species (giant garter snake and western mastiff bat) have the potential to occur within downtown Merced. Given the urban location and disturbed nature of the project site and the construction staging area and the absence of water bodies, mature trees and buildings, these sites do not provide suitable habitat for special-status wildlife species, including western mastiff bat and giant garter snake. Common wildlife species that are adapted to urban environments likely currently use the sites and would continue to use the project site after construction of the project. Therefore, the proposed project would not have a direct or indirect adverse effect on special-status wildlife species (Impact on nesting birds is discussed under **Item (d)**, below). There would be *no impact* with regard to this criterion.

b. The project site is developed with urban uses. No riparian habitat or other sensitive natural community exists on the project site. As such, the project would not have any effect on any riparian habitat or other sensitive natural communities. Similarly, the staging area site would be in downtown Merced and not disturb riparian areas or other sensitive natural communities. There would be *no impact* with regard to this criterion.

c. According to the US Fish and Wildlife Service (USFWS) National Wetlands Inventory, there are no wetlands or potential wetlands located on or within the vicinity of the project site (USFWS 2015). There would be no impact with respect to this criterion.

d. The proposed project would redevelop an already developed parcel in an urban area. In addition, the construction staging area associated with the proposed project would temporally occupy an already disturbed parcel. The project site and vicinity do not include wildlife movement corridors. Wildlife species that likely use the project site or construction staging area are adapted to urban environments and movement through urban landscapes. The project therefore would have no effect on wildlife corridors. All native birds and their nests, regardless of their regulatory status, are protected under the federal Migratory Bird Treaty Act and California Fish and Game Code. Development of the project would result in the removal of one young ornamental tree on the project site that is too small to provide nesting sites for migratory birds. In addition, the ornamental street trees in the immediate vicinity of the project, which are also young, are also too

small to provide nesting sites for migratory birds. However, mature trees located on properties near the project site and palm trees in the N Street median could provide nesting site for migratory and nesting birds could be disturbed during construction of the proposed project. In addition, mature trees are also located on or near the construction staging area. If construction of the proposed project were to occur during the breeding season (March through August), these activities could directly impact nesting birds near the project site or near the construction staging area. Nesting passerines and other unlisted/non-raptor species and raptor species (both listed and unlisted) are protected under the Migratory Bird Treaty Act and/or the California Fish and Game Code. Impacts to active bird nests would be considered a significant impact. **Mitigation Measures BIO-1** and **BIO-2** would be implemented to address nesting birds. With implementation of this measure, the proposed project would not impede the use of native wildlife nursery sites, and this impact would be reduced to a *less than significant* level.

Mitigation Measure BIO-1: If construction activities commence outside the nesting season (generally September 1 through February 28), pre-construction surveys are not required. However, if construction commences outside the nesting season and extends into the nesting season, and is suspended for more than 14 days, a pre-construction survey that is detailed in **Mitigation Measure BIO-2a**, below, will be implemented.

Mitigation Measure BIO-2a: If construction commences during the nesting season (March 1 through August 31), a pre-construction survey for active nests will be conducted within 15 days prior to the start of work. Given the urban setting of the project site and the construction staging area, the radius of the pre-construction survey will be determined in consultation with the California Department of Fish and Wildlife (CDFW). Typically, a 250-foot buffer for passerines and other unlisted/non-raptor species, 500-foot buffer for unlisted raptor species, and 0.5-mile buffer for listed raptor species are required. However, exceptions can be made based on the species of bird nesting, activities proposed, and for noise attenuation provided by intervening buildings in urban areas. Once the survey area is established, a survey of all appropriate nesting habitat will be conducted to locate any active nests. In the event that active nests are identified, appropriate buffer zones and types of construction activities restricted within the buffer zones will be determined through consultation with the CDFW. The buffer zones will be implemented and maintained until the young birds have fledged and no continued use of the nest is observed, as determined by a qualified biologist.

Mitigation Measure BIO-2b: In addition to the above avoidance measures, the Campus will consult with the CDFW to identify other avoidance measures that are as effective and acceptable and may be substituted for the measures noted above. These other avoidance measures may include netting of nearby trees outside of the nesting season so

that nests are not established in those trees for the duration of project construction.

e. The project will not conflict with any local policies or ordinances protecting biological resources. For example, the proposed project would include trees and landscaping which is consistent with General Plan Policy OS-1.4, which requires the City to improve and expand the City's urban forest. There would be *no impact* with respect to this criterion.

f. The project site is not located within the area covered by an adopted habitat conservation plan or natural community conservation plan. There would be *no impact* with respect to this criterion.

5.4.3 Cumulative Impacts

According to the General Plan EIR, future development in the City of Merced could result in substantial adverse impacts on candidate, special-status, or sensitive species. In addition, future development in the City could result in substantial adverse impacts on federally protected wetlands and could substantially interfere with the movement of any native resident or migratory fish or wildlife species. However, with mitigation proposed in the General Plan EIR these impacts would be less than significant (City of Merced 2011b). While development of the proposed project would not result in substantial adverse effects on candidate, special-status, or sensitive species or wetland resources, it could result in adverse effects on nesting birds. However, mitigation is provided that would reduce impacts to nesting birds to a less than significant level. Future development in the City would be required to implement mitigation proposed in the General Plan EIR. Therefore, cumulative impacts of the proposed project and other development in the City on biological resources would be reduced to a less than significant level.

5.5 Cultural Resources

5.5.1 Background

According to the Central California Information Center (CCIC), the project area has minimal sensitivity for the possible discovery of prehistoric or historic archaeological resources or historic properties. However, of the site may contain subsurface historic-era foundations, debris, and artifact deposits associated with earlier uses on the project site (CCIC 2015). In addition, a search of the sacred lands file conducted by the Native American Heritage Commission (NAHC) did not indicate the presence of Native American resources in the immediate project area (NAHC 2015). A copy of the correspondence received from these entities is provided in **Appendix C**.

5.5.2 Environmental Checklist and Discussion

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

DISCUSSION:

a. There are no structures or known historic resources on either the project site or the construction staging area. There would be *no impact.*

b. The CCIC was contacted to conduct an archival records search for the project site and surrounding area. The CCIC indicated that while the project area has minimal sensitivity for the possible discovery of prehistoric or historic archaeological resources or historic properties, the site is somewhat sensitive for the presence of subsurface historic-era foundations, debris, and artifact deposits associated with earlier uses on the project site. In addition, a search of the sacred lands file conducted by the Native American Heritage Commission (NAHC) did not indicate the presence of Native American resources in the immediate project area. However, a letter was sent to a list of Native American individuals and organizations provided by the NAHC, who may have knowledge of cultural resources in the area. No response was received.

Although the potential to encounter any unknown subsurface prehistoric or historic period resources is low, nonetheless if such resources were encountered and inadvertently damaged during project construction, it would be a potentially significant impact. However, implementation of **Mitigation Measure CUL-1** would reduce the impact to a *less than significant* level. There would be no potential to encounter any unknown subsurface prehistoric or historic

period resources at the construction staging area site as no ground disturbance would occur during either the set-up or operation of the construction staging area.

Mitigation Measure CUL-1: If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or non-human bone are inadvertently discovered during ground-disturbing activities on the project site, work will stop in that area and within 100 feet of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures. Treatment measures typically include development of avoidance strategies or mitigation of impacts through data recovery programs such as excavation or detailed documentation.

c. The project site is developed and flat, and thus has no unique geologic features. According to the *Merced Vision 2030 General Plan*, there are no known areas within the City that are known to contain sites of paleontological significance (City of Merced 2012). Subsurface soils on the site are classified as Wyman and Yokohl (City of Merced 2011b). Both of these soils are well-drained and located on alluvial fans. Such materials are considered to have a very low likelihood of containing significant paleontological features. In addition, the project site has been disturbed by past grading activities. Consequently, excavations on the project site are unlikely to disturb or damage paleontological resources. No excavation would occur on the construction staging area. This impact is considered *less than significant*.

d. See the responses to **Items (a)** and **(b)**, above. Although the project site is not located in an area with known burial sites and human remains are not expected to be present on the project site due to prior disturbance, the potential for their presence cannot be completely ruled out. Any disturbance of human remains would represent a potentially significant impact. However, with implementation of **Mitigation Measure CUL-2**, which outlines procedures to be followed in the event that previously unknown human remains are discovered, any impacts would be reduced to a *less than significant* level. There would be no potential to encounter any unknown human remains at construction staging area site as no ground disturbance would occur during either the set-up or operation of the construction staging area.

Mitigation Measure CUL-2: If human remains of Native American origin are discovered during ground-disturbing activities, the Campus will comply with state laws relating to the disposition of Native American burials, which falls within the jurisdiction of the California Native American Heritage Commission (Public Resources Code Section 5097). If human remains are discovered or recognized in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- the coroner of Merced County has been informed and has determined that no investigation of the cause of death is required; and

- if the remains are of Native American origin;
  - the descendants from the deceased Native Americans have made a recommendation to the land owner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98; or
  - the California Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the Commission.

5.5.3 Cumulative Impacts

According to the General Plan EIR, future development in the City of Merced could impact cultural resources. However, with the implementation of policies and implementation actions listed in the City's general plan this impact would be less than significant (City of Merced 2011b). Future development in the City would be required to be consistent with the policies and implementation actions listed in the City's General Plan. Similarly, with mitigation, the proposed project would have less than significant project-level impacts on archaeological resources. In addition, given the soil conditions on the project site and past site disturbance, development of the proposed project would have no project-level impacts on paleontological resources. Therefore, with mitigation, cumulative impacts of the proposed project and other development in the City on cultural resources would be less than significant.

5.6 Geology and Soils

5.6.1 Background

There are no known faults that pass through the project site. The City is vulnerable to shaking from a number of faults that run through the mountains to the east and west. However, the potential for seismically induced ground failure, including liquefaction, is low to moderate. Soils in the area are not considered to be expansive (City of Merced 2011b).

5.6.2 Environmental Checklist and Discussion

GEOLOGY and SOILS Would the project…	Potentially Significant Impact	Less than Significant with Project-level Mitigation	Less than Significant Impact	No Impact
a) Expose people or structures to 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.	☐	☐	☐	☑
ii) Strong seismic ground shaking?	☐	☐	☑	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☑	☐
iv) Landslides?	☐	☐	☐	☑
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☑	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☑	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☑	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☑

DISCUSSION:

a)(i). As discussed above, there are no known faults that pass through the site and the project site is not located within a State of California Earthquake Fault Zone. The nearest active fault is the Great Valley fault, located approximately 30 miles southwest of the project site. Given the distance of the nearest active fault, there would be *no impact* with respect to this criterion.

a)(ii). As discussed above, the City, including the project site, is vulnerable to shaking from seismic events on a number of faults that run through the mountains to the east and west of Merced. Isolated portions of the County may be subject to strong seismic groundshaking. However, these

locations are primarily located to the south, east, and west of the City (City of Merced 2011b). The Campus would minimize the hazards associated with groundshaking by reviewing and approving all draft building plans for compliance with the California Building Code (CBC), which includes specific structural seismic safety provisions. The Campus would also adhere to the University of California Seismic Safety Policy, which requires anchorage for seismic resistance of nonstructural building elements such as furnishings, fixtures, material storage facilities, and utilities that could create a hazard if dislodged during an earthquake. Therefore, the project-level impact associated with risks due to seismic ground shaking would be *less than significant*.

a)(iii). As discussed above, the project site is not susceptible to liquefaction. As a result, the proposed project would not pose a risk to public safety and property by exposing people, property, or infrastructure to potentially adverse effects including seismic-related ground failure and liquefaction. Impacts related to seismic-related ground failure are thus expected to be *less than significant*.

a)(iv). The project site and the surrounding area are characterized by flat topography and are located at a substantial distance from the closest range front. The site is therefore not subject to hazards related to landslides or landslide runout; this includes seismically induced and non-seismic landslides. There would be *no impact* with respect to this criterion.

b. The project site consists of a vacant parking lot. As a result, the project would not result in direct loss of topsoil resources. However, construction of the proposed project would require grading and excavation, which would expose soil to erosion. In compliance with the Calgreen Building Code and the City's National Pollutant Discharge Elimination System (NPDES) MS4 permit, the proposed project would prepare and implement an Erosion and Sediment Control Plan. The plan would cover the project site and construction staging area and include measures to control on-site erosion and off-site sedimentation. In addition, the plan would include measures to keep construction pollutants from coming into contact with storm water. With this plan in place, impacts related to substantial soil erosion is expected to be *less than significant*.

c. Issues related to seismically induced and non-seismic landslide hazards are discussed in the response to **Item (a)(iv)**, above. Issues related to liquefaction and related hazards are discussed in the response to **Item (a)(iii)**, above. Issues related to soil properties are discussed in the response to **Item (d)**, below. Construction of the proposed project would require excavation. Excavated (cut) slopes could become unstable and subject to failure over the short term if they are improperly designed or implemented. However, as identified above, the project would be constructed in accordance with the CBC, which includes provisions that specifically address good grading practices and cut and fill slope stability. Impacts related to unstable cut or fill slopes are therefore expected to be *less than significant*.

d. As discussed above, soils in the area are not expansive. The proposed project will adhere to the CBC, which includes detailed provisions that require that the foundations of new buildings are designed and constructed appropriate to site soil conditions, including requirements to address expansive and otherwise problematic soils should those be present on the site. With adherence to the CBC, impacts related to site soil conditions, including but not limited to expansive soils, would be *less than significant*.

e. No septic tanks or alternative wastewater disposal systems are included in the proposed project, and there would be *no impact*.

5.6.3 Cumulative Impacts

According to the General Plan EIR, although development in the City of Merced could be subject to strong ground shaking, no portion of the City is located in a delineated Alquist-Priolo Earthquake Fault Zone. In addition, the probability of soil liquefaction to occur in the City is considered low to moderate. Finally, soils in the City have a generally low to moderate erosion potential and are not generally considered to be expansive (City of Merced 2011b). Geologic impacts such as those related to risk from faults, liquefaction potential, slope stability, landslide potential, expansive and compressible soils are generally site-specific and do not cumulate. Therefore, the proposed project and other development in the vicinity of the project site in the City of Merced would not result in a significant cumulative impact related to geologic risks.

The one area where the impacts of concurrent construction projects have the potential to cumulate is related to soil erosion and discharge of sediment into receiving waters during construction. According to the General Plan EIR, development in the City of Merced would not result in substantial soil erosion or the loss of topsoil with implementation of policies and implementation actions listed in the City's General Plan and adherence to applicable federal, state, and local regulations (City of Merced 2011b). Future development in the City would be required to be consistent with the policies and implementation actions listed in the City's General Plan and adhere to applicable federal, state, and local regulations. The proposed project would also prepare and implement an Erosion Control Plan during construction. As a result, the cumulative impact of the proposed project and other development in the City associated with soil erosion or the loss of topsoil would be less than significant.

5.7 Greenhouse Gas Emissions

5.7.1 Background

Greenhouse gases (GHG) are any gases that absorb infrared radiation in the atmosphere. GHGs include water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), halogenated fluorocarbons (HCFCs), ozone (O_3), perfluorinated carbons (PFCs), hydrofluorocarbons (HFCs), and sulfur hexafluoride (SF_6).

The Global Warming Solutions Act (AB 32) was passed by the California Legislature and signed into law by the Governor in 2006. AB 32 requires that GHG emissions in 2020 be reduced to 1990 levels. The California Air Resources Board (CARB) is the state agency charged with monitoring and regulating sources of emissions of GHGs that cause global warming in order to reduce emissions of GHGs. The CARB Governing Board approved the 1990 GHG emissions level of 427 million metric tons of CO_2 equivalent ($MMTCO_2e$) on December 6, 2007. CARB also projected the state's 2020 GHG emissions under "business as usual" (BAU) conditions—that is, emissions that would occur without any plans, policies, or regulations to reduce GHG emissions. CARB used an average of the state's GHG emissions from 2002 through 2004 and projected the 2020 levels based on population and economic forecasts. The projected net emissions totaled approximately 596 $MMTCO_2e$, though this estimate has since been updated to 545 $MMTCO_2e$ to account for the economic downturn. Therefore, the state must reduce its 2020 BAU emissions by approximately 22 percent in order to meet the 1990 target.

In August 2008, the SJVAPCD Governing Board adopted the Climate Change Action Plan (CCAP). The CCAP directed the SJVAPCD's Air Pollution Control Officer to develop guidance to assist the SJVAPCD staff, valley businesses, land use agencies, and other permitting agencies in addressing GHG emissions as part of the CEQA process. In support of this guidance, the SJVAPCD released a staff report titled "Addressing Greenhouse Gas Emissions under the California Environmental Quality Act" on December 17, 2009. The staff report provided a summary of background information on global climate change, the current regulatory environment surrounding GHG emissions, and the various concepts in addressing the potential impacts of Global Climate Change under CEQA. The report also evaluated different approaches for estimating impacts and summarized potential GHG emission reduction measures. SJVAPCD staff concluded in the report that existing science is inadequate to support quantification of impacts that project-specific GHG emissions have on global climatic change.

In 2009 the SJVAPCD developed an approach intended to streamline the process of determining if project-specific GHG emissions would have a significant effect. In accordance with the SJVAPCD's guidance for addressing greenhouse gas emission impacts for new projects under CEQA, a project would be considered to have a less than significant individual and cumulative impact on climate change if it were to do at least one of the following:

- Qualify for an exemption from the requirements of CEQA, or
- Comply with an approved greenhouse gas emission reduction plan or greenhouse gas mitigation program, which avoids or substantially reduces greenhouse gas emissions within the geographic area in which the project is located. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and

supported by a CEQA-compliant environmental review document adopted by the lead agency, or

- Implement SJVAPCD-approved best performance standards, or
- Quantify project greenhouse gas emissions and reduce those emissions by at least 29 percent compared with business as usual.

The SJVAPCD's guidance states that "business as usual" is defined in CARB's AB 32 Scoping Plan as emissions occurring in 2020 if the average baseline emissions during the 2002–2004 period grew to 2020 levels without additional control. Therefore, 2002–2004 emissions factors, on a unit of activity basis, multiplied by the activity expected to occur in 2020, is an appropriate representation of 2020 business as usual. The reductions can be based on any combination of reduction measures, including greenhouse gas reductions achieved as a result of changes in building and appliance standards occurring since the 2002–2004 baseline period.

GHG emissions were estimated using CalEEMod, which is recommended by the SJVAPCD for use in calculating air emissions for this type of project.

5.7.2 Environmental Checklist and Discussion

GREENHOUSE GAS EMISSIONS Would the project…	Potentially Significant Impact	Less than Significant with Project-level Mitigation	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☑	☐
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose or reducing the emissions of greenhouse gases?	☐	☐	☑	☐

DISCUSSION:

a. Implementation of the proposed project would result in an increase in GHG emissions that are associated with global climate change. GHG emissions attributable to the proposed project would be primarily associated with increases of CO_2 from mobile sources during the short-term construction and long-term operation of the proposed project. Short-term construction and long-term operational emissions are discussed in more detail below.

Construction

During construction, GHGs would be emitted as a result of the combustion of fuels in construction equipment and construction workers' vehicles. Exhaust emissions during construction of the project were estimated using CalEEMod and are presented in **Table 6, Construction GHG Emissions**.

Table 6
Construction GHG Emissions

Construction Year	$MTCO_2e$
2016	199.4
2017	134.0

*Source: Impact Sciences, Inc. Emission calculations are provided in **Appendix B**.*
$MTCO_2e$ = metric tons of CO_2 equivalent.

The manufacturing of construction materials used for the proposed project would also indirectly contribute to climate change (upstream emission source). Upstream emissions are emissions that are generated during the manufacture of products used for construction (e.g., cement, steel, and transport of materials to the region). The upstream GHG emissions for this project, which may also include perfluorocarbons and sulfur hexafluoride, are not estimated in this impact analysis because they are not within the control of the project proponent and the lack of data precludes their quantification without speculation.

The SJVAPCD does not provide any guidance on evaluation of the impacts from GHG emissions from construction activities. As the project construction would be short-term in nature and the emissions would be low, the impact from the proposed project's construction-phase GHG emissions would be *less than significant*.

Operation

Operational or long-term emissions occur over the life of the project. Sources of both direct and indirect GHG emissions associated with the proposed project include the following:

- **Motor Vehicles**: GHG emissions would be emitted by the cars and trucks that would travel to and from the project site.
- **Electricity**: GHG emissions would be generated by off-site power plants to supply the electricity required for the project.
- **Water Transport**: GHG emissions would result from the generation of electricity required to transport and treat the water to be used on the project site.
- **Waste**: GHG emissions would result from the decomposition of municipal solid waste generated by the project.

The SJVAPCD provides guidance for lead agencies to use in evaluating the significance of the impact of a proposed project's operational GHG emissions. According to the SJVAPCD, projects implementing best performance standards and reducing greenhouse gas emissions by 29 percent compared with business as usual emissions in the year 2020 would be considered to have a less than significant individual and cumulative impact on global climate change. As described in the Regulatory Setting above, the SJVAPCD set the threshold based on the statewide AB 32 percent reduction goal, as calculated by CARB in 2008. CARB has since updated its emission projections

and the state's percentage reduction from year 2020 business as usual has been recalculated from 29 percent to 22 percent. Therefore, a 22 percent reduction goal is used as the threshold of significance for this project, consistent with the SJVAPCD's basis of threshold. According to the SJVAPCD's guidance, reductions may be achieved through any combination of GHG reduction measures, including (1) changes in building and appliance standards occurring since the 2002-2004 baseline period, (2) standards and regulations that reduce emissions from electricity generation such as the renewable energy portfolio standard, (3) state and federal fuel efficiency standards, and (4) project design features.

To evaluate the project's impact, operational GHG emissions that would result from the sources listed above were estimated using CalEEMod for two scenarios: a Business as Usual (BAU) scenario which involved estimating the project's emissions using 2005 emission factors, and the Proposed Project scenario which included estimating the project's emissions using current emission factors plus reductions that would result due to the project's location and from the incorporation of project design features. CalEEMod contains a series of "mitigation measures" that can be used to calculate the reduction in a project's GHG emissions. Because of the proposed project's location in downtown Merced and other attributes, the following measures were checked in the CalEEMod run for the Proposed Project scenario:

- Project site is within 0.25 mile of downtown
- Project site is within 0.25 mile of transit
- Project site is adjacent to existing pedestrian network
- Project will exceed Title 24 standards by at least 20 percent in compliance with the UC policy
- Project will include high efficiency lighting
- Project will include low flow bathroom faucets and toilets
- Project will target 100 percent reduction in waste

The CalEEMod measures are consistent with the SJVAPCD's draft list of mitigation measures for development projects.

The operational emissions for both the BAU scenario and the Proposed Project scenario are shown in **Table 7, Operational Greenhouse Gas Emissions**. As the table shows, GHG emissions from project operations would be 27.3 percent less than the BAU emissions. As the reduction in emissions would be greater than the 22 percent reduction threshold, the impact from the proposed project's operation-phase GHG emissions would be *less than significant*.

Table 7
Operational GHG Emissions

Emission Source	$MTCO_2e$ per year		Percent Reduction
	Business as Usual	Proposed Project	
Area Sources	0	0	--
Energy	295	230	22.0
Mobile (Vehicles)	990	720	27.3
Waste	32	0	100.0
Water	46	41	10.9
Total Emissions	**1,363**	**991**	**27.3**
Does the project Exceed Threshold?			No

*Source: Impact Sciences, Inc. Emission calculations are provided in **Appendix B**.*

b. In 2009, UC Merced adopted a Climate Action Plan for the campus. UC Merced Climate Action Plan does not identify specific elements that need to be included in a proposed project but sets forth goals and actions that the Campus will implement to meet AB 32 requirements and comply with the *Sustainable Practices Policy* adopted by the Regents in 2004 and updated in 2011. The Campus also adopted the UC Merced Sustainability Strategic Plan in 2010 which sets forth minimum requirements and milestones to achieve net zero energy, net zero greenhouse gases, and zero waste by 2020, also referred to as the "Triple Zero Commitment" established by the 2009 Long Range Development Plan (LRDP). The proposed project incorporates a number of building design and operational components that would minimize GHG emissions, and therefore will not result in excessive GHG emissions that would set back the Campus from achieving the goals of the UC Merced Climate Action Plan and the milestones set forth in the Sustainability Strategic Plan. The building would be designed to achieve a minimum of LEED Gold and will exceed Title 24 efficiency standards by 20 percent in compliance with UC policy. The building would be designed to be Net Zero Capable which would enable future installation of solar powered panels. High efficiency lighting would be used throughout the building. Zero waste would be produced by the project by encouraging diversion to recycling and composting facilities. Vehicle access on the project site would not be available. UC Merced would provide shuttle service to the project site for employees which would encourage use of alternative transportation. City of Merced bus stops and transit stations are located within a quarter mile of the project site. Furthermore, as the analysis above shows, the operational emissions associated with the proposed project would be 22 percent less than BUA emissions. Therefore the proposed project would also not conflict with AB 32. The impact would be less than significant**.**

5.7.3 Cumulative Impacts

As the impact from a project's GHG emissions is essentially a cumulative impact, the analysis presented above provides an adequate analysis of the proposed project's cumulative impact related to GHG emissions. No further analysis is required.

5.8 Hazards and Hazardous Materials

5.8.1 Background

Hazardous Materials

A Phase I Environmental Site Assessment (ESA) was prepared for the project site by the University of California Office of the President (UCOP) Risk Services in February 2014. The purpose of the Phase I ESA was to evaluate potential hazards on and in the vicinity of the project site. The findings of the Phase I ESA are summarized below and a copy of the ESA is located in **Appendix D**.

Project Site

The project site was formerly occupied by two separate gasoline service stations. In the 1950s, a service station was located on the southwestern corner of the site and in the 1960s–1970s, a service station (Barbour's Car Wash) was located on the western portion of the project site. Various subsurface site investigation and soil remediation activities, including soil excavation and soil vapor extraction, have occurred on the project site. In 2008 approximately 400 cubic yards of soil was removed from the project site in the vicinity of the former gas tanks/pumps that were part of Barbour's Car Wash. A soil vapor extraction (SVE) system also operated intermittently on the project site from 2006 to 2009 in an attempt to remove residual contamination that remained in the subsurface soils. However, the SVE system was prematurely shut down when it was discovered that the system was drawing chlorinated solvent (perchloroethylene [PCE] and methylene chloride) vapors from an off-site source. Remaining residual petroleum contamination does not appear to pose any significant risk to health and safety and will naturally continue to attenuate over time. A health risk assessment conducted in 2007 for a proposed hotel development on the project site that included an assessment of vapor inhalation concluded that contaminants did not pose an unacceptable hazard to construction workers or hotel guests. The Merced County Environmental Health Agency granted site closure/remediation completion certification for the project site in May 2009 (UCOP 2014).

Project Vicinity

The adjacent parking garage to the east is an active Leaking Underground Storage Tank (LUST) site due to the presence of a former service station on the site. Soils and groundwater on the eastern portion of the project site contain trace residual Total Petroleum Hydrocarbons (TPH)-gasoline contamination and trace residual gasoline/BTEX (benzene, toluene, ethylbenzene, and xylenes) contamination, respectively, from this source. Auto repair shops along 18th Street and the former Simpson/s laundry, located one block south of the project site, were identified as potential sources of the chlorinated solvent vapors detected in the SVE system on the project site (UCOP 2014).

Airport Hazards

The project site is located approximately 1.5 miles to the northeast of the Merced Regional Airport. The project site is not located within the airport's Area of Influence (City of Merced 2011b).

Fire Hazards

The City of Merced is an urbanized community surrounded by agricultural lands. Therefore, the greatest fire risk in Merced is urban fires. Structural and automobile fires are the most common fire risks for residents of Merced.

Hazards Response

The City has prepared a Draft Local Hazard Mitigation Plan in an effort to reduce future loss of life and property resulting from disasters. The goals of the plan are to: (1) provide protection for people's lives from hazards; (2) minimize or reduce damage to property; (3) minimize disruption of essential services, facilities, and infrastructure; (4) maintain, enhance, and restore the natural environment's capacity to deal with the impacts of disasters; (5) promote hazard mitigation as an integrated policy; and (6) increase public awareness.

5.8.2 Environmental Checklist and Discussion

HAZARDS & HAZARDOUS MATERIALS Would the project…	Potentially Significant Impact	Less than Significant with Project-level Mitigation	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?	☐	☐	☑	☐
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?	☐	☑	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☑
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☑
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑

f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
h)	Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☑

DISCUSSION:

a. Although hazardous materials, including fuel, lubricants, and cleaning products, would be used on the project site and the construction staging area during project construction, compliance with local, state, and federal regulations would minimize risks associated with the routine transport, use, or disposal of hazardous materials during project construction. The operation of the proposed project would not involve the routine transport, use, or disposal of hazardous materials, other than cleaning products and maintenance materials. Due to the nature of these materials and the quantities that are typically used in buildings such as the one proposed, impacts with regard to the routine transport, use, or disposal of hazardous materials would be *less than significant*.

b. As discussed above, the findings of the Phase I ESA revealed previous contamination on the project site was remediated. However, the remaining trace residual petroleum contamination does not appear to pose any significant risk to health and safety and will naturally continue to attenuate over time. In addition, a 2007 assessment of potential vapor inhalation concluded that contaminants did not pose an unacceptable hazard to construction workers or building occupants and the Merced County Environmental Health Agency granted site closure/remediation completion certification for the project site in May 2009. However, the Merced County Environmental Health Agency and the Central Valley Regional Water Quality Control Board (RWQCB) required previous plans for a hotel development on the site to mitigate the potential for subsurface vapor intrusion (by trace residual BTEX/PCE) into the structure by incorporating vapor intrusion protective measures (such as the installation of a subslab vapor barrier). In addition, the Phase I ESA recommended that worker health and safety plans as well as contaminated soil contingency/removal plans be prepared in advance of any site development excavation/trenching activities. **Mitigation Measures HAZ-1** and **HAZ-2** below include these recommendations and would reduce potential impacts associated with exposure of project site occupants and construction workers to existing hazardous materials contamination to a *less than significant* level.

Mitigation Measure HAZ-1: The design of the proposed project shall include a subslab vapor barrier that meets the requirements of the Merced County Environmental Health Agency and the Central Valley Regional Water Quality Control Board.

Mitigation Measure HAZ-2: Worker health and safety plans and contaminated soil contingency/removal plans shall be prepared prior to excavation/trenching activities on the project site and implemented during construction.

c. The project site and potential construction staging area are not located within 0.25 mile of a school and would not be a source of toxic air emissions. There would be *no impact* with respect to this criterion.

d. The project site is not located on a property associated with a hazardous site listed under Government Code Section 65962.5, also known as the Cortese List. As a result, the proposed project would not increase the hazard to the public associated with a hazardous site listed under Government Code Section 65962.5. There would be *no impact* with respect to this criterion.

e. The project site and the construction staging area are located approximately 1.5 miles to the northeast of the Merced Regional Airport. However, neither the project site nor the construction staging area is located with the airport's influence area. Therefore, the proposed project would not result in a safety hazard for people working on the project site or the construction stage area. There would be *no impact* with respect to this criterion.

f. There are no private airstrips in the vicinity of the project site or the construction staging area, and there would be *no impact* with respect to this criterion.

g. Implementation of the proposed project would have no effect on emergency evacuation plans for the surrounding area. Construction of the proposed project and construction-related activities would occur within the boundary of the project site and the construction staging area, and thus would not impede any emergency routes. There would be *no impact* with respect to this criterion.

h. The project site and the construction staging area would be located in an urban area. Both sites would not be located in a wildland area, and there would be *no impact* with respect to this criterion.

5.8.3 Cumulative Impacts

According to the General Plan EIR, anticipated future residential development in the City will result in more household hazardous waste materials being used, stored, and discarded in the community. In addition, the increase in population and non-residential land uses in the City could increase hazardous materials accidents such as spills. Finally, there are several hazardous materials sites located in the Merced area or near Merced. However, with implementation of policies and implementation actions listed in the City's General Plan and adherence to applicable federal, state and local regulations this impact would be less than significant (City of Merced 2011b). Future development in the City would be required to be consistent with the policies and implementation actions listed in the City's General Plan and adhere to applicable federal, state, and local regulations. With the implementation of proposed mitigation measures, the proposed project would not expose the public or the environment to a significant risk from on-site contamination. In addition, the project would not involve the routine use of hazardous materials. As a result, the cumulative impacts of the proposed project and other development in the City with regard to hazardous materials would be less than significant.

5.9 Hydrology and Water Quality

5.9.1 Background

Surface Water

The City of Merced is located within the San Joaquin River drainage basin or "watershed." Principal tributaries to the San Joaquin River include the Stanislaus, Tuolumne, and Merced rivers. Key surface water resources in and around the City include the Merced River, Black Rascal Creek, and Bear Creek. The water quality of these surface water resources has been negatively affected by runoff from impervious surfaces during rainy periods. Sources of pollution include vehicle exhaust, vehicle and tire wear, crank case drippings, spills and atmospheric fallout that accumulate on roadways and parking areas along with the use of chemical pesticides and fertilizers, cleaning solvents, etc. (City of Merced 2011b).

Groundwater

The City of Merced is underlain by the San Joaquin River Groundwater Basin and Merced subbasin. The four recognized aquifers beneath the City of Merced from deepest to shallowest include the Mehrten Formation, the confined aquifer, the intermediate aquifer, and the shallow unconfined aquifer. The Mehrten Formation represents a significant aquifer in terms of water supply. Existing groundwater quality in the intermediate or deep aquifers where the City draws its domestic water can generally be characterized as moderate to good. Groundwater in the shallower aquifers has been impacted by nitrates from wastewater disposal and agriculture, and water quality is declining (City of Merced 2011b).

Increasing urban demand and associated population growth, along with an increased shift by agricultural users from surface water to groundwater and prolonged drought, have resulted in declining groundwater levels due to overdraft. The City has engaged in a number of water planning forums, and actively participates in the various entities which share concerns for water supply in the area. In 1995, the Merced Water Supply Plan was created, establishing goals for managing groundwater resources and for providing a continued, high quality supply of water. In 2001, the Merced Water Supply Plan Update was prepared. Both plans addressed the problems of water supply, which were compounded by the increasing demand for water from population growth, persistent drought, and a change by agricultural users from surface water to groundwater. These increased demands have resulted in a decrease in groundwater levels and have led to overdraft of the aquifer (City of Merced 2011b).

Flooding

The project site is located within the 100-year flood hazard area (City of Merced 2011b). In particular, the site is located in a Special Flood Hazard Area (AO) (FEMA 2008), which is an area subject to shallow flooding (1 to 3 feet) during a 100-year storm event.

5.9.2 Environmental Checklist and Discussion

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

DISCUSSION:

a., f. As discussed in **Item 15.6(b)**, above, the proposed project would develop and implement an Erosion and Sediment Control Plan, including control measures to control erosion from the project site and construction staging area, during construction. In addition, the proposed project would develop and implement a post-construction storm water plan that would incorporate Low Impact Development measures into the project to control for the discharge of pollutants in site runoff post-construction. Concerning the construction staging area, upon completion of the proposed project, the Campus would restore the staging area to its original condition and the

responsibility for controlling the discharge of pollutants from the staging area would revert back to the property owner. The impact to water quality would be *less than significant*.

b. The proposed project would increase demand for potable water, which would be drawn from the Merced subbasin by the City and supplied to the project site. The subbasin is currently in a condition of overdraft. The *Merced Vision 2030 General Plan* contains several policies and implementation actions directed at stabilizing the aquifer and conserving water. The implementation of these policies and implementing actions will help reduce the impact of future development on the aquifer to a less than significant level (City of Merced 2011b). As discussed in **Item 5.10(b)**, below, the project site is designated Regional Commercial in the City's General Plan. This designation would allow development to be built at a FAR of 3.5 to 6.0. The proposed project, with a FAR of 2.7, would develop the site with a land use that is less intense than the land use provided for the project parcel in the General Plan. In addition, the project is targeting a LEED designation of Gold or higher, which would require the project to minimize water use, and the proposed project would also comply with the UC Policy on Sustainable Practices, which requires that per capita potable water consumption be reduced by 20 percent. The proposed project would not interfere with the General Plan policies and implementing actions aimed at stabilizing the aquifer and conserving water. For these reasons, the project's water use would have a *less than significant* effect on the local aquifer.

Implementation of the proposed project would not result in substantial loss of groundwater recharge capability. The project site is relatively small (approximately 0.85 acre) and is mostly covered with pavement at the present time. As a result, the project would not cause an increase in impervious surfaces that is substantial relative to the extent of the groundwater basin. This impact would be *less than significant*.

c. Storm water generated on the project site would be directed toward existing storm drainage facilities serving the project site. As discussed in **Item 15.6(b)**, above, during construction the proposed project would control for soil erosion, siltation, and other pollutants from being discharged into the storm drain system through the preparation and implementation of an Erosion and Sediment Control Plan. Implementation of the plan would reduce the potential for erosion on the project site and the construction staging area and minimize the discharge of sediment and other pollutants into the storm drain system. Once the proposed project is constructed, the project site would be under impervious surfaces (buildings, pavement, etc.) and landscaped. This would minimize the potential for erosion and sedimentation in the long term. In addition, post-development peak storm water flows will not exceed pre-development peak storm water flows because there would not be a substantial increase in impervious surfaces on the project site. The proposed project would also develop and implement a post-construction storm water plan that would incorporate Low Impact Development measures into the project. As a result, the amount of runoff entering the City's storm drain system would not increase substantially relative to existing conditions and will not result in off-site erosion or siltation in downstream locations. Therefore, this impact is considered *less than significant*.

d. As discussed in **Item (c)**, above, storm water generated by the development of the proposed project would be directed toward existing storm drainage facilities serving the project site. For reasons presented above, post-development peak storm water flows will not exceed pre-development peak storm water flows. As a result, the amount of runoff entering the City's

storm drain system would not result in on-site flooding or off-site flooding in downstream locations. Therefore, this impact is considered *less than significant*.

e. As discussed in **Items (c–d)**, above, post-development peak storm water flows will not exceed pre-development peak storm water flows. See response to **Item (a)**, above, with regard to water quality. As a result, development of the proposed project would not provide substantial additional sources of polluted runoff. Therefore, this impact is considered *less than significant*.

g. The proposed project will not develop residential uses on the project site. As a result, the proposed project would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. There would be *no impact* with regard to this criterion.

h. The project site is located in a Special Flood Hazard Area (AO), which is an area subject to shallow flooding (1 to 3 feet) during a 100-year storm event. The building will be appropriately designed and constructed to address this level of potential flooding. As the project site is located in a highly developed portion of the City, it will not redirect flood flows that may be experienced during a 100-year storm event. Therefore, this impact is considered *less than significant*.

i., j. According to the *Merced Vision 2030 General Plan,* the project site is not located within the inundation area of a dam (City of Merced 2012). No bodies of water are located in the vicinity of the project site. As a result, the project is not at risk of seiche or tsunami inundation. Because the proposed project is located within an area of flat topography there is no risk of debris flow or mudflow. There would be *no impact* with regard to these criteria.

5.9.3 Cumulative Impacts

According to the General Plan EIR, anticipated future development in the City could potentially impact the quality of runoff and other pollutant loadings to receiving waters. However, with implementation of policies and implementation actions listed in the City's general plan this impact would be less than significant (City of Merced 2011b). The proposed project would develop and implement an Erosion and Sediment Control Plan, including control measures to control erosion from the project site and construction staging area. Future development in the City would be required to prepare a Storm Water Pollution Prevention Plan (for projects that would disturb more than 1 acre) or Erosion Control Plan (for projects that would disturb less than 1 acre). Therefore, the cumulative impact of the proposed project and other development in the City with regard to water quality would be less than significant.

According to the General Plan EIR, anticipated future development in Merced could substantially deplete groundwater supplies or interfere substantially with groundwater recharge. However, with the implementation of policies and implementation actions listed in the City's General Plan that would stabilize the aquifer, this impact would be less than significant (City of Merced 2011b). The proposed project would not interfere with the General Plan policies and implementing actions aimed at stabilizing the aquifer and conserving water. In addition, implementation of the proposed project would not result in substantial loss of groundwater recharge capability as the project site is relatively small and is mostly covered with pavement at the present time. Future development in the City will also adhere to policies and implementation actions listed in the General Plan that would stabilize the aquifer. As a result, the cumulative

impact of the proposed project and other development in the City with regard to groundwater supplies and groundwater recharge would be less than significant.

According to the General Plan EIR, anticipated future development in City could result in stormwater capacity being exceeded. However, with implementation of policies and implementation actions listed in the City's General Plan and adherence to applicable City requirements this impact would be less than significant (City of Merced 2011b). Post-development peak storm water flows on the project site will not exceed pre-development peak storm water flows. All site drainage from anticipated future development in the City would also be designed and constructed in to ensure that post-development storm water flows will not exceed pre-development storm water flows in accordance with applicable City requirements. Therefore, the cumulative impact of the proposed project and other development in the City on storm water capacity would be less than significant.

According to the General Plan EIR, anticipated future development in Merced could place housing or other structures within a 100-year flood hazard area. However, with implementation of policies and implementation actions listed in the City's General Plan and adherence to applicable City requirements this impact would be less than significant (City of Merced 2011b). The proposed project will not include residential uses. In addition, as the project site is located in a highly developed portion of the City, it will not redirect flood flows that may be experienced during a 100-year storm event. Future development in the City will also implement policies and implementation actions listed in the General Plan and adhere to applicable City requirements. As a result, the cumulative impact of the proposed project and other development in the City related to flooding would be *less than significant*.

5.10 Land Use and Planning

5.10.1 Background

As a state entity, the University of California, of which UC Merced is a part, is not subject to regional or local land use controls, and projects developed by the University in support of the University's mission do not require any discretionary approvals from local jurisdictions such as the city or the county in which the project is located. Nevertheless, the Campus has a tradition of working cooperatively with the local communities and it is University policy to seek consistency with local plans and policies, where feasible.

The project site is located within downtown Merced and is surrounded by a mix of commercial and retail uses (see **Figure 2, Project Site and Vicinity**). The project site is designated for Regional Community Commercial (RC) land uses according to the *Merced Vision 2030 General Plan* and is zoned as Central Commercial District (C-C) according to the *Merced Zoning Map*.

5.10.2 Environmental Checklist and Discussion

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

DISCUSSION:

a. The project site is located in downtown Merced, a highly developed urban area. The proposed project would construct an office building on a site that was previously developed and would not involve the vacation of any public streets or pedestrian access ways. As a result, development of the proposed project would not physically divide an established community. There would be *no impact* with respect to this criterion.

b. As discussed above, UC Merced is not subject to regional or local land use controls. Nevertheless, such plans and policies are of interest or concern because the proposed project and local development are coincident and the analysis below demonstrates that the proposed project would be consistent with the City of Merced General Plan and zoning**.**

The project site is designated for Regional Community Commercial (RC) land uses according to the *Merced Vision 2030 General Plan* and is zoned as Central Commercial District (C-C) according to the *Merced Zoning Map*. The RC land use designation is intended to provide community and regional commercial centers to serve the full depth and variety of retail goods, general

merchandise, apparel, and home furnishings, with one or more major department stores as key tenants while the C-C zoning designation permits professional offices as primary principal use. While the proposed project is not consistent with the uses envisioned under the RC land use designation it is consistent with the office use permitted under the C-C zoning designation. In addition, under the RC land use designation, a Floor Area Ratio (FAR) of 3.5 to 6.0 is allowed while under the C-C zoning designation, structures up to 60 feet in height are permitted within the zone. The proposed project would have an FAR of 2.7, which is below the intensity standard established under the RC designation, and a height of three stories (approximately 45 feet), which is below the maximum height standard within the C-C district. Therefore the University would develop the site with a land use that is less intense than the land use provided for the parcel in the General Plan. This impact would be *less than significant*.

c. The project site is not located within the area covered by an adopted habitat conservation plan or natural community conservation plan. There would be *no impact* with respect to this criterion.

5.10.3 Cumulative Impacts

According to the City of Merced 2030 General Plan EIR, anticipated future development in the City could conflict with applicable land use plans, policies, or regulations. However, with implementation of policies and implementation actions listed in the City's General Plan this impact would be less than significant (City of Merced 2011b). All future development in the City would be reviewed for consistency with adopted land use plans and policies by the City. For this reason, pending and approved projects are anticipated to be consistent with the General Plan and zoning requirements, or be subject to an allowable exception, and further, would be subject to review under CEQA, mitigation requirements, and UC Merced campus design review. Similarly, the proposed project would develop the site with a use that is less intense than the use provided in the General Plan. As a result, the cumulative impact of the proposed project and other development in the City related to land use consistency would be less than significant.

5.11 Mineral Resources

5.11.1 Background

The City of Merced does not contain any mineral resources that require managed production. Commercial deposits of oil and gas are not known to occur within the City or planning area (City of Merced 2011b).

5.11.2 Environmental Checklist and Discussion

MINERAL RESOURCES Would the project…	Potentially Significant Impact	Less than Significant with Project-level Mitigation	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?	☐	☐	☐	☑
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☑

DISCUSSION:

a. - b. Neither project site nor the construction staging area is designated as a mineral resource zone, and no known or potential mineral resources are located on the project site or the construction staging area. In addition, existing zoning and land uses preclude the use of the project site or the construction staging area for mineral extraction (for example, sand, and gravel). Therefore, development on the project site and use of the construction staging area would not impede extraction or result in the loss of availability of a known mineral resource. There would be *no impact* with regard to these criteria.

5.11.3 Cumulative Impacts

No mineral resource zones or mineral resource recovery sites exist within the City of Merced. There would be *no impact* on mineral resources from cumulative development, including the proposed project.

5.12 Noise

5.12.1 Background

Noise Fundamentals

Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). The human ear does not respond uniformly to sounds at all frequencies; for example, it is less sensitive to low and high frequencies than it is to the medium frequencies that more closely correspond to human speech. In response to the sensitivity of the human ear to different frequencies, the A-weighted noise level (or scale), which corresponds more closely with people's subjective judgment of sound levels, has been developed. This A-weighted sound level, referenced in units of dB(A), is measured on a logarithmic scale such that a doubling of sound energy results in a 3.0 dB(A) increase in sound level. In general, changes in a noise level of less than 3.0 dB(A) are not typically noticed by the human ear. Changes in noise levels ranging from 3.0 to 5.0 dB(A) may be noticed by some individuals who are extremely sensitive to changes in noise. A greater than 5.0 dB(A) increase is readily noticeable, while the human ear perceives a 10.0 dB(A) increase in sound level to be a doubling of sound.

When assessing community reaction to noise, there is an obvious need for a scale that averages varying noise exposures over time and that quantifies the result in terms of a single number descriptor. Several scales have been developed that address community noise level. Those that are applicable to this analysis are the Equivalent Noise Level (Leq), the Day-Night Noise Level (Ldn or DNL), and the Community Noise Equivalent Level (CNEL).

- Leq is the average A-weighted sound level measured over a given time interval. Leq can be measured over any period, but is typically measured for 1-minute, 15-minute, 1-hour, or 24-hour periods.
- Ldn or DNL is a 24-hour Leq with a "penalty" of 10 dB added during the nighttime hours (10:00 PM to 7:00 AM), which is normally sleeping time.
- CNEL is another average A-weighted sound level measured over a 24-hour period.

However, the CNEL noise scale is adjusted to account for the increased sensitivity of some individuals to noise levels during the evening as well as the nighttime hours. A CNEL noise measurement is obtained after adding a "penalty" of 5 dB to sound levels occurring during the evening from 7:00 PM to 10:00 PM, and 10 dB to sound levels occurring during the nighttime from 10:00 PM to 7:00 AM.

Vibration Fundamentals

Vibration is minute variation in pressure through structures and the earth, whereas noise is minute variation in pressure through air. Thus, vibration is felt rather than heard. Some vibration effects can be caused by noise, e.g., the rattling of windows from truck pass-bys. This phenomenon is related to the production of acoustic energy at frequencies that are close to the resonant frequency of the material being vibrated. Groundborne vibration attenuates rapidly as distance from the source of the vibration increases.

Vibration can be measured as particle velocity in inches per second and referenced as vibration decibels (VdB). The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings such as operation of mechanical equipment, movement of people, or the slamming of doors.

Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is barely perceptible. The range of interest is from approximately 50 VdB, which is typical background vibration velocity, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.

Noise and Vibration Sensitive Land Uses

Noise- and vibration-sensitive land uses generally include those uses where exposure to noise and vibration would result in adverse effects. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise- and vibration sensitive and may warrant unique measures for protection from intruding noise or vibration.

There are no noise- or vibration-sensitive receptors located in the immediate vicinity of the project site or the potential construction staging area. The closest noise- or vibration-sensitive sensitive receptors to the project site are residential uses located over 700 feet to the northwest while the closest noise- or vibration-sensitive sensitive receptors to the construction staging area would be at least 400 feet from the area.

Existing Noise Environment

The most pervasive noise sources in developed areas are typically related to transportation. Vehicle noise along heavily traveled roadways commonly causes sustained elevated noise levels. In densely developed communities, traffic noise often occurs in close proximity to land uses where people are sensitive to noise. Principal vehicular traffic routes near the project site include West 18th Street, West 19th Street, N Street, and M Street. Noise from these roadways dominates the noise environment to the west and east of the project site, respectively.

The existing ambient noise levels were estimated for the segments of West 18th Street, West 19th Street, N Street, and M Street near the project site based on average daily trips provided in the traffic study for this project. The traffic noise was modeled using the Federal Highway Administration Highway (FHWA) Highway Noise Prediction Model (FHWA-RD-77-108). The highest traffic volumes during either the AM or PM peak hour were used as inputs into the model. The results of the noise modeling are presented in **Table 8, Existing Roadway Modeled Noise Levels**. As shown, the modeled roadway noise levels ranged from 47.0 dB(A) CNEL to 64.5 dB(A) CNEL. It is noted that noise levels along these roadways are likely higher than these levels due to the contribution of noise from other sources. However, traffic is the dominant noise source in the area.

Table 8
Existing Roadway Modeled Noise Levels

Roadway Segment/Intersection	CNEL at 75 Feet	Distance to Noise Contour [a]		
		70 CNEL	65 CNEL	60 CNEL
West 19th Street				
• West of N Street	48.3	-- [b]	-- [b]	-- [b]
• Between N Street and M Street	54.1	-- [b]	-- [b]	-- [b]
• East of M Street	51.6	-- [b]	-- [b]	-- [b]
West 18th Street				
• West of N Street	53.3	-- [b]	-- [b]	-- [b]
• Between N Street and M Street	57.9	-- [b]	-- [b]	-- [b]
• East of M Street	55.3	-- [b]	-- [b]	-- [b]
N Street				
• North of West 19th Street	47.0	-- [b]	-- [b]	-- [b]
• Between West 19th Street and West 18th Street	53.2	-- [b]	-- [b]	-- [b]
• South of West 18th Street	51.0	-- [b]	-- [b]	-- [b]
M Street				
• North of West 19th Street	62.1	-- [b]	-- [b]	121
• Between West 19th Street and West 18th Street	64.5	-- [b]	-- [b]	210
• South of West 18th Street	61.1	-- [b]	-- [b]	95

*Source: Impact Sciences. Model results are contained in **Appendix E**.*

a Distances are in feet from roadway centerline. The identified noise level at 75 feet from the roadway centerline is for reference purposes only as a point from which to calculate the noise contour distances. It does not reflect an actual building location or potential impact location.

b Noise contour is located within the roadway right-of-way.

City of Merced Noise and Vibration Standards

According to the *Merced Vision 2030 General Plan*, noise levels in exterior use areas associated with residential uses are considered normally acceptable if noise levels are 60 dB(A) CNEL/Ldn or less, conditionally acceptable if noise levels range from 60 to 70 dB(A) CNEL/Ldn, normally unacceptable if noise levels range from 70 to 75 dB(A) CNEL/Ldn or above. In addition, noise levels in exterior use areas associated with office buildings and commercial uses are considered normally acceptable if noise levels are 65 dB(A) CNEL/Ldn or less, conditionally acceptable if noise levels range from 65 to 80 dB(A) CNEL/Ldn, normally unacceptable if noise levels range from 80 dB(A) CNEL/Ldn or above (City of Merced 2012).

According to the City of Merced 2030 General Plan EIR, vibration levels should not exceed a peak particle velocity of 0.1 inch/second at 25 feet during construction activities (City of Merced 2011b).

5.12.2 Environmental Checklist and Discussion

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

DISCUSSION:

a. Future noise levels on the project site and in the surrounding area would continue to be dominated by vehicular traffic on adjacent roadways. **Table 9, Existing Plus Project Roadway Modeled On-Site Noise Levels**, presents the modeled future average daily noise levels associated with these roadways under existing plus project traffic conditions.

As shown in **Table 9**, the 65 dB(A) noise contour associated with traffic on adjacent streets would not extend onto the project site. As a result, the proposed project would not expose building occupants to noise levels in excess of the City's 65 dB(A) CNEL/Ldn noise standard for office buildings, and this impact would be *less than significant*.

Table 9
Existing Plus Project Roadway Modeled On-Site Noise Levels

Roadway Segment/Intersection	CNEL at 75 Feet	Distance to Noise Contour [a]		
		70 CNEL	65 CNEL	60 CNEL
West 19th Street				
• West of N Street	50.4	-- [b]	-- [b]	-- [b]
• Between N Street and M Street	54.9	-- [b]	-- [b]	-- [b]
• East of M Street	52.2	-- [b]	-- [b]	-- [b]
West 18th Street				
• West of N Street	54.1	-- [b]	-- [b]	-- [b]
• Between N Street and M Street	58.1	-- [b]	-- [b]	-- [b]
• East of M Street	55.6	-- [b]	-- [b]	-- [b]
N Street				
• North of West 19th Street	47.0	-- [b]	-- [b]	-- [b]
• Between West 19th Street and West 18th Street	53.5	-- [b]	-- [b]	-- [b]
• South of West 18th Street	51.0	-- [b]	-- [b]	-- [b]
M Street				
• North of West 19th Street	62.3	-- [b]	-- [b]	125
• Between West 19th Street and West 18th Street	64.7	-- [b]	-- [b]	216
• South of West 18th Street	61.3	-- [b]	-- [b]	101

*Source: Impact Sciences. Model results are contained in **Appendix E**.*

a Distances are in feet from roadway centerline. The identified noise level at 75 feet from the roadway centerline is for reference purposes only as a point from which to calculate the noise contour distances. It does not reflect an actual building location or potential impact location.

b Noise contour is located within the roadway right-of-way.

b. Construction activities such as drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) can generate substantial vibration in the immediate vicinity of a construction site. Ground vibrations from construction activities very rarely reach the levels that can damage structures, but they can achieve the audible range and be felt in buildings very close to the site, and can result in annoyance and/or disruption of normal activities. Construction activities for the proposed project would include demolition of the existing parking lot, site preparation work, excavation, foundation work, and new building construction. Removal of the existing pavement could at times produce substantial vibration. Excavation for underground utilities would also occur and could produce perceptible vibration. Although pile drivers would not be used for construction of the proposed project, some of the equipment used in project construction could result in perceptible vibration. However, the construction-phase vibrations would not result in a significant impact because the land uses in the immediate vicinity of the project site and the construction staging area are not considered vibration-sensitive uses. The buildings near the project site and construction staging area are primarily commercial and civic buildings and retail establishments. In addition, the adjacent Merced College – Business Center is not considered a vibration-sensitive land use as it does not house vibration-sensitive equipment and does not provide traditional classroom teaching but conducts work force training. The nearest vibration-

sensitive land use (residences) to the project site is greater than 700 feet away while the nearest vibration-sensitive land use (residences) to the construction staging area is at least 400 feet away, and these distances are beyond the distance where vibrations generated by construction equipment on the project site or the construction staging area would be perceptible. Further, vibration generated by the use of construction equipment would only occur for short periods of time during some activities associated with the construction of the proposed project. Because of the temporary nature of vibration generating activities and absence of sensitive land uses in the immediate vicinity the project site or construction staging area, this impact is *less than significant*.

c. Vehicular noise generated by project traffic could affect land uses located adjacent to area roadways. *State CEQA Guidelines* define a project-level impact as being significant if the project "increases substantially the ambient noise levels for adjoining areas." In practice, significant noise impacts are usually identified in CEQA analyses if the project would result in a perceptible ambient noise level increase, commonly considered to be 3 dB(A). Traffic noise was modeled for the roadways to which the project would add traffic based on the traffic study prepared for the proposed project. Specifically, noise levels were calculated by comparing existing plus project conditions to existing noise conditions. The traffic volumes during PM peak hour were used as inputs into the model as these were greater than traffic volumes during the AM peak hour. The results of the modeled weekday roadway noise levels are provided below in **Table 10, Operational Roadway Noise Levels – Project Conditions**. As shown, changes in CNEL levels along all the roadways in the project area would be less than 3 dB(A). This impact is considered *less than significant*.

Table 10
Operational Roadway Noise Levels – Project Conditions

Roadway Segment	Existing Noise Levels Without Project, dB(A) CNEL	Future Noise Levels Plus Project dB(A) CNEL	Change in Noise Levels, dB(A)
West 19th Street			
• West of N Street	48.3	50.4	2.1
• Between N Street and M Street	54.1	54.9	0.8
• East of M Street	51.6	52.2	0.6
West 18th Street			
• West of N Street	53.3	54.1	0.8
• Between N Street and M Street	57.9	58.1	0.2
• East of M Street	55.3	55.6	0.3
N Street			
• North of West 19th Street	47.0	47.0	--
• Between West 19th Street and West 18th Street	53.2	53.5	0.3
• South of West 18th Street	51.0	51.0	--
M Street			
• North of West 19th Street	62.1	62.3	0.2
• Between West 19th Street and West 18th Street	64.5	64.7	0.2
• South of West 18th Street	61.1	61.3	0.2

The proposed project would not result in the introduction of any new major stationary noise sources nor would the project locate noise-sensitive land uses close to nearby existing noise sources. Noise generated on the project site would be predominantly associated with the operation of building mechanical equipment, such as heating, ventilation, and air conditioning (HVAC) systems, and would not be uncharacteristic of existing noise sources near the project site. Building mechanical equipment would be located on the roof top and enclosed in equipment rooms or shielded from direct public/personnel exposure (i.e., above ceilings, in walls, or behind enclosures). As a result, noise associated with on-site HVAC systems are not expected to result in a significant increase in ambient noise levels at nearby land uses. Furthermore, noise-sensitive uses are not located close to the project site.

Based on the above, implementation of the proposed project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, and this impact would be *less than significant*.

d. Project construction activities such as earthmoving and construction of on-site improvements would involve the use of heavy equipment, such as scrapers, tractors, loaders, and concrete mixers. Trucks would be used to deliver building materials, to haul away demolition wastes, and to import and export fill materials. Smaller equipment, such as jackhammers, pneumatic tools, saws, and hammers may also be used throughout the site during the construction activities. This equipment would generate both steady state and episodic noise that would be heard both on and off the project site. Noise levels generated during construction would primarily affect the patrons of the commercial and retail uses adjacent to the project site and the construction staging area, which are not considered noise-sensitive uses. Noise levels generated during construction would not affect the closest noise-sensitive land uses located in a residential neighborhood that is 700 feet to the northwest of the project site due to the distance and intervening structures between this neighborhood and the site. Similarly, noise levels generated at the construction staging area would not affect the closest noise-sensitive land uses which would be at least 400 feet from the area. For this reason, the potential impact from construction noise would be *less than significant*.

Apart from the equipment noise associated with construction activities on the project site and the construction staging area, construction traffic would generate noise along access routes to and from the project site and the construction staging area. The major pieces of heavy equipment would be moved onto the project site or the construction staging area one time. Daily construction traffic associated with the proposed project would not be a substantial percentage of daily traffic volumes on area roadways and would travel between Highway 99 and the project site or the construction staging area via city streets that generally do not have residential uses present near the roadway. Therefore, the potential impact from the project's construction traffic would be *less than significant*.

e. The project site is located approximately 1.5 miles to the northeast of the Merced Regional Airport. According the *Merced Vision 2030 General Plan*, the project site is located outside of the airport's 55 dB(A) CNEL contour (City of Merced 2012). In addition, the project site is not located underneath identified flight paths and approaches for the airport. For these reasons, flight operations at the airport would not expose building occupants on the project site to excessive noise levels. There would be *no impact* with respect to this criterion.

f. There are no private airstrips in the vicinity of the project site or the construction staging area, and there would be *no impact* with respect to this criterion.

5.12.3 Cumulative Impacts

According to the General Plan EIR, anticipated development in the City may contribute to increased traffic noise levels, and a significant increase in overall traffic noise levels at existing sensitive receptors. Even with the implementation of General Plan policies and implementation actions listed in the General Plan, this impact was found significant and unavoidable (City of Merced 2011b)

Noise levels along study area roadways were modeled based on cumulative traffic, i.e., traffic that is projected to be in the study area under 2030 conditions, including project traffic. The results of the modeled weekday roadway noise levels are provided below in **Table 11, Operational Roadway Noise Levels – Cumulative Conditions**. As shown, changes in CNEL levels along all the roadways in the area would be less than 3 dB(A). This cumulative impact from traffic noise is considered less than significant.

Table 11
Operational Roadway Noise Levels – Cumulative Conditions

Roadway Segment	Existing Noise Levels Without Project, dB(A) CNEL	Cumulative Noise Levels (including Project) dB(A) CNEL	Change in Noise Levels, dB(A)
West 19th Street			
• West of N Street	48.3	51.0	2.7
• Between N Street and M Street	54.1	55.7	1.6
• East of M Street	51.6	53.1	1.5
West 18th Street			
• West of N Street	53.3	54.9	1.6
• Between N Street and M Street	57.9	58.9	1.0
• East of M Street	55.3	56.4	1.1
N Street			
• North of West 19th Street	47.0	47.9	0.9
• Between West 19th Street and West 18th Street	53.2	54.4	1.2
• South of West 18th Street	51.0	51.9	0.9
M Street			
• North of West 19th Street	62.1	63.0	0.9
• Between West 19th Street and West 18th Street	64.5	65.5	1.0
• South of West 18th Street	61.1	62.1	1.0

*Source: Impact Sciences, Inc., 2014. Modeling outputs are contained in **Appendix E**.*

There are no proposed projects that would be located near the proposed project to result in a cumulative noise impact on the nearby receptors due to stationary sources. There would not be a cumulative noise impact due to noise from stationary sources.

According to the City's 2030 General Plan EIR, noise from construction activity associated with anticipated development in Merced would contribute to the overall ambient noise environment. However, with the implementation of policies and implementation actions listed in the City's General Plan this impact would be less than significant (City of Merced 2011b). With respect to cumulative construction noise impacts, those would occur only if other development projects in downtown Merced were to be under construction the same time as the proposed project and if these concurrent projects would be in close proximity of the same receptors and would expose the receptors to construction noise. Residential uses are located to the northeast, northwest and south of downtown Merced. Construction of the proposed project and other development in the vicinity of the project site would not expose these residential receptors to substantial levels of noise given the distance of these receptors from the project site and the number of intervening buildings between the project site and these receptors. The cumulative impact with respect to construction noise would be less than significant.

5.13 Population and Housing

5.13.1 Background

After years of steady population growth, the City of Merced has experienced a slowdown in growth over the recent years. According the US Census Bureau, the City of Merced had a population of 78,958 in 2010, which represented a 23.6 percent increase over the City's population of 63,893 persons in 2000. However, according to data obtained from the California Department of Finance, the City of Merced's current population of 81,130 represents only a 2.8 percent increase over the City's population in 2010. The population of Merced is expected in reach 116,800 by 2030 (City of Merced 2011b).

5.13.2 Environmental Checklist and Discussion

POPULATION AND HOUSING Would the project…	Potentially Significant Impact	Less than Significant with Project-level Mitigation	Less than Significant Impact	No Impact
a) Induce substantial 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)?	☐	☐	☐	☑
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

DISCUSSION:

a. The proposed project would not develop any residential uses and, therefore, would not induce population growth through the provision of new dwelling units. The proposed project would accommodate approximately 454 FTE university employees that presently occupy leased office space at a number of off-campus locations throughout the City and region. As existing employees would relocate to the new building, the proposed project would not directly result in an increase in area population. The 36,600 asf of office space in the City of Merced and 66,500 asf of office space at the nearby former Castle Air Force Base to be vacated by UC Merced would become available for other businesses to occupy, in turn creating opportunities for generation of new jobs. However, these new jobs would be unlikely to result in substantial population growth given the number of persons currently unemployed in Merced County. According to the California Employment Development Department (EDD), as of December 2014, there were 14,600 unemployed persons in Merced County (EDD 2015). Therefore, the proposed project would not induce substantial population growth through the provision of new jobs in the area. There would be *no impact* with respect to this criterion.

b., c. The project site is currently a parking lot. The site is not designated for residential uses. The proposed project would not displace any existing households necessitating the construction of replacement housing elsewhere. There would be *no impact* with respect to this criterion.

5.13.3 Cumulative Impacts

According to the General Plan EIR, anticipated future growth in Merced would result in a substantial population growth throughout the City. However, with the implementation of several General Plan policies, this impact is considered less than significant (City of Merced 2011b). The *Merced Vision 2030 General Plan* anticipates and plans for the cumulative population increase in the City through 2030. As the proposed development on the project site would not exceed the extent and intensity of development allowed under the *Merced Vision 2030 General Plan*, development on the site has been accounted for in General Plan growth projections. In addition, building occupants are existing UC Merced employees that already reside in the region. Future development in the City would be required to be consistent with the policies listed in the City's General Plan that accommodate growth in a planned and orderly fashion. Therefore, the cumulative impact of the proposed project and other development in the City with regard to population growth would be less than significant.

5.14 Public Services

5.14.1 Background

Fire Protection

The City of Merced Fire Department (MFD) provides fire protection services to the project site. The MFD has five fire stations that cover all areas of the City. The closest fire station is Station 51, located at 99 East 16th Street, approximately 0.75 mile southeast of the project site. In 2012, the MFD responded to approximately 400 fire calls and about 3,800 rescue and emergency medical service incidents. The MFD has turnout time standard of 80 seconds, 90 percent of the time and a travel time standard of 4 to 6 minutes, 90 percent of the time. In 2012, the MFD met its turnout time standard 47 percent of the time while it met the 4-minute travel time standard 92 percent of the time and the 6-minute travel time standard 99 percent of the time (MFD 2013).

Police Protection

The UC Merced Police Department provides law enforcement services for Campus properties and facilities, which would include the proposed project. The UC Merced Police Department operates out of a station on the UC Merced campus and handles all patrol, investigations, crime prevention education, and related law enforcement duties for the campus. Currently, the UC Merced Police Department consists of 10 sworn officers and nine non-sworn employees and strives to maintain a service level standard of 0.7 officer per 1,000 persons of the campus population (UC Merced 2009). The UC Merced Police Department has a mutual aid agreement with the City of Merced Police Department.

The City of Merced Police Department (MPD) provides law enforcement services in the vicinity of the project site. Services are provided from one central station located at 611 West 22nd Street, approximately a quarter mile north of the project site. City of Merced is divided into three police districts. The project site is located within District 2, which serves the area between Highway 99 to the south and Bear Creek to the north. The MPD strives to maintain a service standard of approximately 1.32 sworn officers per 1,000 population. The MPD currently has 81 sworn officers with plans to add five more officers (West 2015). Based on a population of 81,130, the current ratio is about 1.0 sworn officers per 1,000 population, which is below the department's standard. With the additional of five officers, the ratio would improve to approximately 1.1 officers per 1,000 population, which is still below the department's standard.

Schools

The project site is located with the boundaries of the Merced City School District (MCSD) and Merced Union High School District (MUHSD). The MCSD operates 13 elementary schools and four middle schools while the MUHSD operates nine high schools and one adult school. There are no school facilities in the immediate vicinity of the project site. The nearest school is Fremont Elementary, located on 444 West 23rd Street, approximately 0.5 mile northwest of the project site. There were 435 students enrolled at Fremont Elementary in the 2013–14 school year (Ed-Data 2015).

Parks

Parks and recreational services are provided regionally by the City of Merced. The nearest parks are Courthouse Park, located approximately 650 feet north of the project site, and Bob Hart Square, located about 750 feet southeast of the project site.

Libraries

Libraries in Merced County are provided by the Merced County Library System, which has one main library in Merced and 15 branch libraries throughout the County. The main library is located next to the Merced County Courthouse at 21st and O Streets, approximately 0.25 mile north of the project site.

5.14.2 Environmental Checklist and Discussion

PUBLIC SERVICES Would the project…	Potentially Significant Impact	Less than Significant with Project-level Mitigation	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:				
i) Fire protection?	☐	☐	☑	☐
ii) Police protection?	☐	☐	☑	☐
iii) Schools?	☐	☐	☑	☐
iv) Parks?	☐	☐	☑	☐
v) Other public facilities?	☐	☐	☑	☐

DISCUSSION:

a.i. The project site currently consists of a vacant parking lot and does not generate calls for emergency medical and fire services. With the implementation of the project, an estimated population of 454 employees would be on the site during work hours. The proposed new building and its associated population, although relocated from other parts of the City and the former Castle Air Force Base, would generate some number of calls for emergency medical services and fire response at this location. The MFD has indicated that the proposed project would not place a large demand on fire protection services and no new fire station or an expansion of an existing fire station would be needed to serve the proposed project (Henry 2015). As no new fire station or an expansion of an existing fire station would be needed, there would be no potential for significant environmental impacts from the construction of new or expanded facilities. This impact would be *less than significant*.

a.ii. The proposed project would construct on office building on a parcel that currently consists of a vacant parking lot, which would contribute to an increase in calls over and above the undeveloped condition. As discussed above, the UC Merced Police Department handles all patrol, investigations, crime prevention education and related law enforcement duties for the campus community, and would provide these services to the proposed project. The UC Merced Police Department currently provides these services to the various Campus administrative departments that would be re-located to the proposed structure. As a result, there would be no increase in demand for law enforcement services provided by the UC Merced Police Department, and no new facilities would be needed to serve the proposed project. As part of its mutual aid agreement with the UC Merced Police Department, the MPD may be requested to respond to call for service at the proposed project site. The MPD has indicated that the proposed project would not place a large demand on police protection services and no facilities would be needed to serve the proposed project (West 2015). As no new police station or an expansion of an existing police station would be needed, there would be no potential for significant environmental impacts from the construction of new or expanded facilities. This impact would be *less than significant*.

a.iii. In general, the demand for school services is the result of an area's residential population. The proposed project is not constructing any residential units and thus will not generate any school age children. The employees that would occupy the building are existing employees and thus will not increase the school age population in the area. For this reason, no new schools or the expansion of existing schools would be needed, and there would be no potential for significant environmental impacts from the construction of new or expanded facilities. This impact would be *less than significant*.

a.iv. In general, residential development directly generates demand for recreation and parks facilities. As discussed above, the project will not directly generate any additional permanent residents. Project employees are not expected to use local park or recreational facilities to any great extent, since they typically will not have long periods of time during the workday to visit parks and recreational facilities. As a result, the project will not result in any measurable demand for parks and recreational services. For this reason, no new parks or recreational facilities or an expansion of an existing parks and recreational facilities would be needed, and there would be no potential for significant environmental impacts from the construction of new or expanded facilities. This impact would be *less than significant*.

a.v. In general, residential developments result in a direct increase in demand on library services. As discussed above, the proposed project would not directly generate new residents or cause a substantial number of people to move into the area. As a result, the proposed project would not generate an additional need for library space or additional volumes to the permanent collection. For this reason, no new libraries or an expansion of existing library space would be needed, and there would be no potential for significant environmental impacts from the construction of new or expanded facilities. This impact would be *less than significant*.

5.14.3 Cumulative Impacts

Future development in the City would result in the need for new or expanded fire, police, school, parks, and library facilities. As a result of the increased demand, future growth in the City would require new or physically altered facilities to accommodate staff and equipment to meet increased demand, the construction of which could cause significant environmental impacts.

However, with the implementation of policies and implementation actions listed in the City's General Plan, this impact would be less than significant (City of Merced 2011b). The fire and police departments have indicated that the proposed project would not place a large demand on fire and police protection services in the City, and as a result no new fire or police facilities would need to be constructed to serve the proposed project. As discussed above, the proposed project would not place a demand on schools, parks, or libraries services. Future development in the City would implement policies and implementation actions listed in the City's General Plan and would be subject to CEQA requirements, including requirements to assess and mitigate potential impacts to public services. Therefore, the cumulative impact of the proposed project and other development in the City with regard to public services would be less than significant.

5.15 Recreation

5.15.1 Background

Parks and recreational services are provided regionally by the City of Merced. As mentioned in **Section 5.14, Public Services**, the nearest parks are Courthouse Park, located approximately 650 feet north of the project site, and Bob Hart Square, located about 750 feet southeast of the project site. No recreational facilities are provided at either park.

5.15.2 Environmental Checklist and Discussion

RECREATION Would the project…	Potentially Significant Impact	Less than Significant with Project-level Mitigation	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?	☐	☐	☑	☐
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?	☐	☐	☑	☐

DISCUSSION:

a. As discussed in **Item 5.14(a)(iv)**, above, the proposed project would not directly or indirectly increase the residential population in the City of Merced. It will therefore not intensify the usage of the available park and recreational facilities such that a substantial physical deterioration of the facilities could occur or be accelerated. Therefore, this impact is *less than significant*.

b. The proposed project does not include the construction of on-site recreational amenities. As discussed in **Item 5.14(a)(iv)**, above, the proposed project will not result in an increase in the demand for parks and recreational services and, therefore, will not require the construction or expansion of recreational facilities. Therefore, this impact is *less than significant*.

5.15.3 Cumulative Impacts

According to the General Plan EIR, anticipated future development in Merced would increase the residential population in the City, thus resulting in a cumulative increase in the use of recreational facilities. As a result, future growth in the City may cause substantial physical deterioration of recreational facilities to occur or be accelerated. However, with the implementation of policies and implementation actions listed in the City's General Plan this impact would be less than significant (City of Merced 2011b). As discussed above, the proposed project will not result in an increase in the demand for parks and recreational services. Future development in the City would implement policies and implementation actions listed in the City's General Plan. Therefore, the cumulative impact of the proposed project and other development in the City with regard to recreation would be *less than significant.*

5.16 Transportation/Traffic

5.16.1 Background

A traffic impact study (TIS) was prepared by Fehr & Peers (2015) to evaluate the impacts of the proposed project on the street system adjacent to the project site. The TIS is included in **Appendix F** of this document. The TIS analyzed the anticipated traffic impacts that would result with implementation of the proposed project during the weekday AM and PM peak hours. The traffic impact analysis included seven intersections that were analyzed during the AM and PM peak hours and under the following scenarios:

1. Existing Conditions – Existing (January 2015) conditions based on traffic counts.

2. 2017 (Opening Day) with Project – Year 2017 projected traffic plus project generated traffic.

3. 2030 No Project – Year 2030 forecast traffic based on growth rates presented in the Merced Vision 2030 General Plan.

4. 2030 with Project – Year 2030 forecast traffic plus project-related traffic.

The following intersections were analyzed:

1. West 18th Street/R Street

2. West 19th Street/N Street

3. West 19th Street/M Street

4. West 18th Street/N Street

5. West 18th Street/M Street

6. West Main Street/M Street

7. West 18th Street/Martin Luther King Jr. Way

Analysis Methods

Traffic operations were analyzed using the Synchro 8.0 software program, which is based on procedures outlined in the 2010 Highway Capacity Manual.

Intersection traffic operations were evaluated using the level of service (LOS) concept. LOS is a qualitative description of an intersection and roadway's operation ranging from LOS A to LOS F. LOS A represents free-flow uncongested traffic conditions. LOS F represents highly congested traffic conditions with unacceptable delay to vehicles at the intersections and on the road segments. The intermediate levels of service represent incremental levels of congestion and delay between these two extremes.

The City of Merced has established LOS D as the minimum threshold for acceptable traffic operations at new and existing intersections in the City (City of Merced 2012).

Existing Conditions

Weekday morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak period intersection turning movement counts were taken at the study intersections in January 2015. Based on these counts, the area traffic peak hours are generally 7:30 to 8:30 AM and 4:15 to 5:15 PM.

Existing operations were evaluated using the methodology described above for the weekday AM and PM peak hours. The results are summarized **Table 12, Intersection Levels of Service – Existing Conditions**. Currently, all but one intersection operate at LOS C or better. The intersection of Martin Luther King Jr. Way/West 18th Street, which is an unsignalized all-way stopped-controlled intersection, operates at LOS D in the AM peak hour and LOS F in the PM peak hour.

Table 12
Intersection Levels of Service – Existing Conditions

			Existing Conditions	
Intersection	Control[1]	Peak Hour	Delay (seconds)[2]	LOS
1. R street/18th Street	Signalized	AM	5.5	A
		PM	8.3	A
2. N Street/19th Street	SSSC	AM	4.3(9.9)	A(A)
		PM	5.4(10.8)	A(B)
3. M Street/19th Street	Signalized	AM	12.9	B
		PM	22.5	C
4. N Street/18th Street	AWSC	AM	8.3	A
		PM	9.3	A
5. M Street/18th Street	Signalized	AM	10.1	B
		PM	17.5	B
6. M Street/Main Street	Signalized	AM	17.9	B
		PM	16.2	B
7. Martin Luther King Jr. Way/18th Street	AWSC	AM	30.4	D
		PM	55.8	F

Source: Fehr & Peers, 2015

[1] *Signal = Signalized Intersection; AWSC=All-way-stop-controlled intersections SSSC = Side-street stop-controlled intersections.*

[2] *Delay presented in seconds per vehicle; for side-street controlled intersections, two delays and service levels are presented; intersection average (worst approach)*

To assess the need for signalization of the intersection of Martin Luther King Jr. Way/West 18th Street, the Peak Hour Volume Warrant from the *Manual of Uniform Traffic Control* (MUTCD) was checked, and the intersection does meet the warrant for installation of a signal based on PM peak hour traffic volumes. The City currently does not have installation of a signal at this intersection in the Capital Improvement Plan.

5.16.2 Environmental Checklist and Discussion

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

DISCUSSION:

a., b. According to the TIS, intersection traffic impacts would be considered significant if the proposed project would:

1. Cause the deterioration of a signalized intersection from LOS D or better under baseline conditions to LOS E or LOS F with the addition of the Project; or

2. Cause an increase in average delay of 5 or more seconds for a signalized intersection operating at LOS E or LOS F under baseline conditions.

3. At a side-street stop-controlled intersection, cause the peak hour signal warrant to be met, or add 5 or more seconds of delay to the worst movement/approach when the signal warrant is met without Project traffic.

4. At an all-way stop-controlled intersection, cause the peak hour signal warrant to be met, or add 5 or more seconds of delay to the average control delay when the signal warrant is met without Project traffic.

The proposed project consists of an approximately 75,000-square-foot office building, which is projected to house up to 454 employees. No new parking is proposed. However, parking to accommodate the proposed project is available within the vicinity of the project site according to

a parking survey conducted by UC Merced from Tuesday, March 17 through Monday, March 23, 2015 (Tuesday through Friday and the following Monday) in both the late morning and mid-afternoon periods. The survey indicated that about 670 vacant unrestricted (i.e., not time-limited or dedicated to private uses) spaces were available, on average, within a three to four block radius of the project site. Given the anticipated occupancy of the proposed project, this parking supply is more than adequate to accommodate all employees and visitors to the structure.

Project trip generation was estimated using rates in the Institute of Transportation Engineers (ITE) Trip Generation, 9th Edition for land use code 710 (General Office Building). The trip generation rates based on employment were used because those rates yielded a slightly higher trip generation estimate than the rates based on building floor area. The project is estimated to generate 1,586 daily vehicle trips, including 245 trips during the AM peak hour 228 trips during the PM peak hour.

Project trips were assigned to the local road network based on a GIS analysis of staff residences within the City of Merced and the greater region provided by Campus staff and parking stall availability within the Downtown Merced area.

2017 (Opening Day) with Project

Based on a consultation with City staff, it was determined that no development projects are expected to be completed prior to 2017 that would substantially affect traffic volumes at the study intersections. Therefore, the existing January 2015 traffic volumes are used to represent 2017 traffic volumes without the proposed project. Project trips were added to the 2017 peak hour traffic volumes to estimate the 2017 (Opening Day) with project peak hour traffic volumes. No roadway or intersection improvements are assumed for this analysis.

The impact of project trips on study area intersections is summarized in **Table 13, Intersection Levels of Service – 2017 (Opening Day) with Project**. As indicated in the table, project traffic slightly increases the delay at the intersections, including the unsignalized intersection of Martin Luther King, Jr. Way/18th Street, which operates poorly without the proposed project. However, the delay at this intersection does not increase by more than 5 seconds, and the proposed project does not cause the intersection to meet the peak hour volume signal warrant, as it already meets the warrant under baseline conditions. Therefore, based on the impact criteria presented above, the impact of the proposed project on study area intersections is *less than significant*.

Table 13
Intersection Levels of Service – 2017 (Opening Day) with Project

Intersection	Control[1]	Peak Hour	2017 Conditions Delay (seconds)[2]	2017 Conditions LOS	2017 with Project Conditions Delay (seconds)[2]	2017 with Project Conditions LOS
1. R street/18th Street	Signalized	AM	5.5	A	5.6	A
		PM	8.3	A	8.9	A
2. N Street/19th Street	SSSC	AM	4.3(9.9)	A(A)	4.3(10.3)	A(B)
		PM	5.4(10.8)	A(B)	5.4(11.5)	A(B)
3. M Street/19th Street	Signalized	AM	12.9	B	14.2	B
		PM	22.5	C	23.5	C
4. N Street/18th Street	AWSC	AM	8.3	A	8.5	A
		PM	9.3	A	9.6	A
5. M Street/18th Street	Signalized	AM	10.1	B	10.7	B
		PM	17.5	B	18.2	B
6. M Street/Main Street	Signalized	AM	17.9	B	19.4	B
		PM	16.2	B	16.2	B
7. Martin Luther King Jr. Way/18th Street	AWSC	AM	30.4	D	33.6	D
		PM	55.8	F	56.2	F

Source: Fehr & Peers, 2015

[1] *Signal = Signalized Intersection; AWSC=All-way-stop-controlled intersections SSSC = Side-street stop-controlled intersections.*

[2] *Delay presented in seconds per vehicle; for side-street controlled intersections, two delays and service levels are presented; intersection average (worst approach)*

c. The project site is located approximately 1.5 miles to the northeast of the Merced Regional Airport. However, the project site is not located within the airport's influence area. In addition, the height of the proposed structure would not exceed the City's maximum height of 60 feet for the Central Commercial District (C-C) zone. There would be *no impact* with regard to this criterion.

d. The proposed project would be required to comply with design standards in the *California Fire Code* with respect to provision of access for fire control and suppression. Required compliance with these existing standards would prevent hazardous design features and would ensure adequate and safe access. This impact is considered *less than significant*.

e. The proposed project would comply with all building, fire, and safety codes and the design plans would be subject to review and approval by the Campus Fire Marshall. Required review by the department would ensure that the proposed circulation system for the project site would provide adequate emergency access. In addition, the proposed project would not cause any permanent or temporary closures to any roadway. There would be *no impact* with respect to this criterion.

f. There are no adopted policies, plans, or programs regarding alternative transportation that are applicable to the proposed project. The project is located near public transit routes and it is expected that building occupants would make use of existing transit options. Given the project size, the small number of additional riders that may be generated by the proposed project would not exceed the capacity of the local transit systems. In addition, the project does not require the removal, addition, or relocation of transit, pedestrian or bicycle facilities. There would be *no impact* with respect to this criterion.

5.16.3 Cumulative Impacts

Intersection volume forecasts for the Year 2030 were developed using the growth rates on the various roadways in the study area as reflected in the *Merced Vision 2030 General Plan*. No roadway or intersection improvements were assumed in the study area for the analysis of 2030 conditions.

The results of the intersection LOS analysis for cumulative conditions without and with the proposed project are summarized in **Table 14, Intersection Levels of Service – Cumulative Conditions**. Relative to 2030 without Project conditions, the proposed project slightly increases delays at all the study area intersections, including the unsignalized intersection of Martin Luther King Jr. Way/West 18th Street, which is projected to operate at LOS F with or without the proposed project in 2030. At this intersection, the proposed project does not increase the delay by more than 5 seconds, and does not cause the peak hour volume signal warrant to be met, since it is already met under baseline conditions. Therefore, based on the impact criteria presented above, the cumulative impact of the proposed project on study area intersections is *less than significant*.

Table 14
Intersection Levels of Service – Cumulative Conditions

			2030 without Project		2030 with Project	
Intersection	Control[1, 2]	Peak Hour	Delay (seconds)	LOS	Delay (seconds)	LOS
1. R street/18th Street	Signalized	AM	6.1	A	6.2	A
		PM	9.0	A	9.5	A
2. N Street/19th Street	SSSC	AM	4.5(10.2)	A(B)	4.5(10.7)	A(B)
		PM	5.6(11.5)	A(B)	5.6(12.3)	A(B)
3. M Street/19th Street	Signalized	AM	14.0	B	15.3	B
		PM	25.6	C	26.7	C
4. N Street/18th Street	AWSC	AM	8.6	A	8.9	A
		PM	10.1	A	10.6	B
5. M Street/18th Street	Signalized	AM	10.9	B	11.4	B
		PM	20.0	B	20.7	C
6. M Street/Main Street	Signalized	AM	18.0	B	19.4	B
		PM	16.4	B	16.4	B
7. Martin Luther King Jr. Way/18th Street	AWSC	AM	53.8	F	53.8	F
		PM	61.4	F	62.3	F

Source: Fehr & Peers, 2015

[1] *Signal = Signalized Intersection; AWSC=All-way-stop-controlled intersections SSSC = Side-street stop-controlled intersections.*

[2] *For side-street stop-controlled intersections, two service levels are listed: Average intersection LOS (LOS for worst side-street movement)*

5.17 Utilities and Service Systems

5.17.1 Background

Potable Water

The City of Merced Water Division currently provides water service to the project site. The City's current water system consists of 22 groundwater production wells located throughout the City, with an additional well under construction; approximately 340 miles of distribution pipeline; and four water tower tanks providing approximately 1.6 million gallons of storage. The City of Merced water system supplies approximately seven billion gallons of water annually to the residents, institutions, and businesses in the City (City of Merced 2015).

Wastewater

Wastewater (sanitary sewer) collection and treatment in the Merced urban area is provided by the City of Merced. Wastewater is treated at the City's Wastewater Treatment Plant (WWTP), located in the southwest part of the City about 2 miles south of the airport. The WWTP has a design and permit capacity of 11.5 million gallons per day (mgd). The WWTP currently treats 8.5 mgd. The City has initiated an expansion project to increase capacity to 12 mgd. Future improvements would add another 8 mgd in capacity (in increments of 4 mgd) for a total of 20 mgd. This design capacity can support a population of approximately 174,000 (City of Merced 2011b).

Stormwater

Stormwater generated on the project site is collected by the municipal storm drain system and conveyed to Merced Irrigation District (MID) facilities, including water distribution canals and laterals, drains, and natural channels that traverse the area (City of Merced 2011b).

Solid Waste

The City of Merced is served by the Highway 59 Landfill and the Highway 59 Compost Facility, located at 6040 North Highway 59, 1.5 miles north of Old Lake Road. The County of Merced operates and maintains the facilities while the Merced County Association of Governments owns the facilities. The landfill is currently permitted to receive a maximum of 1,500 tons per day. The facility has a maximum permitted capacity of approximately 30 million cubic yards and, as of 2005, had a remaining capacity of about 28 million cubic yards (City of Merced 2011b).

5.17.2 Environmental Checklist and Discussion

UTILITIES & SERVICE SYSTEMS Would the project…	Potentially Significant Impact	Less than Significant with Project-level Mitigation	Less than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☑	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☑	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the providers existing commitments?	☐	☐	☑	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☑	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☑	☐

DISCUSSION:

a., e. Wastewater generated on the project site would be conveyed through the City's sanitary sewer system to the WWTP for treatment. As discussed in **Item (b)**, below, the volume of wastewater generated by the proposed project would be accommodated by the WWTP. Consequently, the proposed project is not expected to contribute to an exceedance of applicable wastewater treatment requirements. The impact would be *less than significant*.

b., d. The proposed project would increase demand for potable water in the City. According to the City's *2010 Urban Water Management Plan*, an adequate amount of water supply exists to meet future demands within the City under normal, dry-year, and multiple dry year conditions (City of Merced 2011a). Future water demands in the City are based on projected development contained in the City's 2030 General Plan. As the proposed development on the project site would not exceed the extent and intensity of development allowed under the City's General Plan, the proposed project would not generate a demand for water previously not considered by the City. Therefore, no new water supply or treatment facilities or expansion of existing facilities is required adequate water supplies exist to serve the proposed project. These impacts would be *less than significant*.

The proposed project would increase demand for wastewater treatment in the City. As discussed above, the WWTP has the capacity to treat 11.5 mgd and is currently treating 8.5 mgd. Ultimately the WWTP could be expanded to treat up to 20 mgd. Adequate surplus capacity is available at the WWTP to handle the flows associated with the proposed project. Furthermore, future wastewater generation within the WWTP's service area is based on projected development contained in the City's 2030 General Plan. As the proposed project would not exceed the intensity of development at the project site allowed under the City's General Plan, the project would not result in a demand for wastewater treatment capacity not previously considered by the City. For all of these reasons, no new wastewater treatment facilities or expansion of existing facilities is required, and this impact would be *less than significant*.

c. All site runoff would be directed to the City's existing municipal storm drainage system, which was designed to accommodate flows resulting from buildout in the project area. As discussed in in **Items 15.9(c)** and **15.9(d)**, above, post-development storm water flows will not exceed pre-development storm water flows. Therefore, an expansion of the existing system is not required. There would be *no impact* with respect to this criterion.

f., g. The proposed project would increase demand for solid waste disposal in the City. The Highway 59 Landfill has at least 28 million cubic yards or 93 percent of its capacity remaining. Therefore, there is sufficient capacity to serve the proposed project, and this impact would be *less than significant*.

5.17.3 Cumulative Impacts

According to the General Plan EIR, anticipated development in the City will place increased demands on the area's water supplies and increased pressure on water purveyors to provide for the reliable delivery of water throughout the planning area. However, with the implementation of General Plan policies and implementing actions, the continuation of water conservation measures and best management practices, and adherence to state and local regulations, the impact of future development on future water supply would be reduced and no new or expanded water entitlements would be required (City of Merced 2011b). As the proposed project would not exceed the intensity of development allowed under the City's General Plan for the project parcel, the proposed project would not generate a demand for water previously not considered by the City. Future development in the City would implement policies and implementation actions listed in the City's General Plan, to actions to conserve water, and adhere to state and local regulations. Therefore, the cumulative impact of the proposed project and other development in the City with regard to water supply would be less than significant.

According to the General Plan EIR, the planned expansion of the WWTP will accommodate the City's planned growth. In addition, the implementation of general plan policies and implementing actions listed in the City's General Plan would reduce wastewater generation, and this impact was considered less than significant (City of Merced 2011b). As the proposed project would not exceed the intensity of development provided for the project parcel under the City's General Plan, the proposed project would not generate a demand for wastewater treatment capacity previously not considered by the City. Future development in the City would implement policies and implementation actions listed in the City's General Plan to reduce wastewater generation. As a result, the cumulative impact of the proposed project and other development in the City associated with water treatment capacity would be less than significant.

According to the General Plan EIR, anticipated future development in Merced will require development of new storm water facilities. However, with adherence to existing regulations and City design standards this impact would be less than significant (City of Merced 2011b). As discussed above, post-development storm water flows on the project site will not exceed pre-development storm water flows and thus would not contribute to the need for new or expanded storm drainage facilities. Future development in the City would be required to adhere to existing regulations, City design standards, and the City's Municipal Separate Storm Sewer System NPDES permit with regard to providing storm drain facilities such that post-development stormwater flows would not exceed pre-development storm water flows. Therefore, the cumulative impact of the proposed project and other development in the City with regard to the provision of new storm water facilities or the expansion of existing facilities would be less than significant.

According to the General Plan EIR, anticipated future development within the City would increase demand for solid waste disposal services. Solid waste generated by existing and anticipated future development within the City would be sent to the Highway 59 Landfill. The landfill is expected to adequately serve existing and future development in the City and the County until 2030 (City of Merced 2011b). As the proposed project would not exceed the intensity of development allowed under the City's General Plan, the proposed project would not generate solid waste previously not considered by the City. Future development in the City would be required to reduce solid waste generation per state and local regulations. As a result, the cumulative impact of the proposed project and other development in the City with regard to landfill capacity would be less than significant.

5.18 Mandatory Findings of Significance

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

DISCUSSION:

a. Construction activities associated with the proposed project have the potential to result in significant impacts to special-status and non-special-status migratory bird nests. Any potential adverse effect to special-status and non-special-status migratory bird nests from construction activities would be reduced to a less than significant level by the implementation of the proposed mitigation, which requires preconstruction surveys for nesting birds and appropriate actions to avoid disturbance to any active nests during the nesting season. Therefore, the proposed project would not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal.

As with any project that involves ground disturbance, construction activities associated with the proposed project have the potential to result in significant impacts to subsurface unknown archaeological resources or human remains encountered during site grading and excavation activities. Any potential adverse effect to unknown archaeological resources or human remains resulting from soil disturbance would be reduced to a less than significant level by the implementation of the proposed mitigation measures, which address the accidental discovery of previously unknown archaeological resources or human remains. Therefore, the proposed project would not eliminate examples of the major periods of California history or prehistory.

b. Each environmental topic area includes an analysis of cumulative impacts based on land use projections and the City's 2030 General Plan. No significant cumulative impacts from the proposed project have been identified.

c. The proposed project would not directly or indirectly cause significant adverse effects on human beings. Hazardous materials and noise would be the only resources through which the proposed project could have an effect on human beings; however, all impacts with regard to hazardous materials and noise would be mitigated to less than significant and the proposed project would therefore avoid causing substantial adverse effects on human beings. For all other resource areas, the proposed project would either have no significant impacts, or, involve impacts that would not affect human beings.

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