NOTICE OF PREPARATION AND INITIAL STUDY

FOR THE

THETA XI FRATERNITY REDEVELOPMENT PROJECT

FEBRUARY 2019

Prepared for:

City of Davis
23 Russell Boulevard
Davis, CA 95616
(530) 757-5610

Prepared by:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762
(916) 949-3231

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

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Notice of Scoping Meeting and Preparation of a Draft Environmental Impact Report

Date: February 25, 2019

Subject: **Notice of Scoping Meeting and Preparation of a Draft Environmental Impact Report for the Theta Xi Fraternity Redevelopment Project**

To: State Clearinghouse
State Responsible Agencies
State Trustee Agencies
Other Public Agencies
Organizations and Interested Persons

Lead Agency: City of Davis
Community Development and Sustainability Department
23 Russell Boulevard, Suite 2
Davis, CA 95616
Phone: 530-757-5652
Email: injoku@cityofdavis.org

SCOPING MEETING: **On Monday, March 18, 2019 starting at 7:00 p.m.** the City of Davis Community Development and Sustainability Department will conduct a public scoping meeting to solicit input and comments from public agencies and the general public on the proposed Draft Environmental Impact Report (EIR) for the Theta Xi Project. **This meeting will be held at Senior Center Activity Room, located at 646 A Street, Davis, CA 95616.** The meeting will run from 7:00 p.m. to 9:00 p.m.

This meeting will be held by the Historical Resources Management Commission (HRMC). The meeting will be open to the general public and all interested parties. The applicant's proposed project exhibits will be available for review. The public and interested parties may submit written comments at any time during the comment period that will end at 5:00 p.m. on March 26, 2019, including at the meeting. The project proponent team, representatives from the City of Davis, and the EIR consultant will be available to address questions regarding the EIR process. Members of the public may provide written comments throughout the meeting, and until 5:00 p.m. March 26, 2019.

If you have any questions regarding this scoping meeting, contact the project planner, Ike Njoku, at injoku@cityofdavis.org, or by phone at: 530-757-5610 ext. 7230.

NOTICE OF PREPARATION: This is to notify public agencies and the general public that the City of Davis, as the Lead Agency, will prepare a Draft EIR for the Theta Xi Project. The City is interested in the input and/or comments of public agencies and the general public as to the scope and content of the environmental information that is germane to the agencies' statutory responsibilities in connection with the proposed project, and public input. Public agencies will need to use the EIR prepared by the City when considering applicable permits, or other approvals for the proposed project.

Project Title: Theta Xi Fraternity Redevelopment

Project Location: 503, 509, and 515 First Street

COMMENT PERIOD: Consistent with the time limits mandated by State law, your input, comments or responses must be received in writing and sent at the earliest possible date, but not later than **5:00 p.m., Tuesday, March 26, 2019**.

COMMENTS/INPUT: Please send your input, comments or responses (including the name for a contact person in your agency) to: Attn: Ike Njoku, City of Davis Community Development and Sustainability Department, 23 Russell Boulevard, Suite 2, Davis, CA 95616, or by email at: injoku@cityofdavis.org.

PROJECT DESCRIPTION: The project site is currently developed with three two-story adjacent Theta Xi fraternity houses, totaling 19,800 square feet (sf). The proposed project includes merging the three lots located at 503, 509, and 515 First Street and re-subdividing the property into two lots for the redevelopment of one parcel with a consolidated 35-bed, three-story building. The project would include demolition of the buildings at 503 and 509 First Street (Bryson House, Jackson House, and a garage structure), the retention of the building at 515 First Street (TX Main House) on a reconfigured lot of approximately 9,450 sf, and the construction of a new three-story fraternity on the new 10,350 sf lot. The proposed thee-story fraternity building would provide 35 total beds and nine total bathrooms. The project would also consolidate all living and study areas into the proposed three-story building with partial basement, a detached laundry, storage building, and trash enclosure, and associated site landscaping with exterior meeting and gathering spaces. There would also be a dedicated "Bike Barn" with bike maintenance space and a one-to-one ratio of covered and secured bike storage to beds. Additional guest bike parking would be provided along the landscape strip on First Street. The project would include a new parking lot accessed from D Street through a secured vehicle gate.

AREAS OF POTENTIAL IMPACTS: The Draft EIR will examine most of the environmental areas contained in Appendix G of the State CEQA Guidelines, with the exception of Mineral Resources. The topics to be addressed in the Draft EIR include: Cultural Resources, Land Use/Planning, Cumulative Impacts, and Growth Inducing Impacts.

INITIAL STUDY: An Initial Study has been prepared for this project. The Initial Study identifies environmental areas/issues that would result in No Impact or a Less than Significant Impact, and environmental areas/issues that would result in a Potentially Significant Impact. All Potentially Significant Impact areas/issues will be addressed in greater detail in the Draft EIR. Areas/issues that would result in No Impact or a Less than Significant Impact, as identified in the Initial Study, will not be addressed further in the Draft EIR.

ADDITIONAL INFORMATION: Copies of the Initial Study, including additional information on the project proposal, is on the city's website at: https://cityofdavis.org/city-hall/community-development-and-sustainability/development-projects/theta-xi-redevelopment-project.

Date: February 25, 2019

Signature: IkeNjoka

Name/Title: Planner & Historical Resources Manager

Phone/Email: (530) 757-5610, Extension 7230 & injoka@cityofdavis.org

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INITIAL STUDY CHECKLIST

PROJECT TITLE

Theta Xi Fraternity Redevelopment Project

LEAD AGENCY NAME AND ADDRESS

City of Davis
23 Russell Boulevard
Davis, CA 95616

CONTACT PERSON AND PHONE NUMBER

Ike Njoku, Planner and Historical Resources Manager
City of Davis, Department of Community Development and Sustainability
(530) 757-5610 ext. 7230

PROJECT SPONSOR'S NAME AND ADDRESS

Robert D. Testa and/or Skip Mezger, Directors
Beta Epsilon Association of Theta Xi
515 First Street
P. O. Box 4450, Davis, CA 95617

PURPOSE OF THE INITIAL STUDY

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

This Initial Study has been prepared consistent with CEQA Guidelines Section 15063, to determine if the proposed Theta Xi Project (project) may have a significant effect upon the environment. Based upon the findings and mitigation measures contained within this report, an EIR will be prepared.

PROJECT LOCATION AND SETTING

PROJECT LOCATION

The project site consists of approximately 0.45 acres located in the central portion of the City of Davis, north of the Interstate 80 (I-80) Freeway, at 503, 509, and 515 First Street. The project

site can be identified by its Yolo County Assessor's Parcel Numbers (APNs) 070-244-004, 070-244-005, and 070-244-006. The project site is located in the Davis Downtown Core Area, near what is considered the historic gateway to the City of Davis. The project's regional location is shown in Figure 1 and the project area and site boundary are shown in Figure 2.

EXISTING SITE USES

The project site is currently developed with three two-story adjacent Theta Xi fraternity houses, totaling 19,800 square feet (sf). The three lots are owned by the Beta Epsilon Association of Theta Xi, a non-profit California corporation, and occupied by the fraternity. The site has provided student housing dating from 1950 when Theta Xi (TX) acquired the first of the three lots. From east to west, the fraternity houses include the "TX Main House" located at 515 First Street (3,964 total sf, excluding the basement), the "Bryson House" located at 509 First Street (2,009 total sf, excluding the basement), and the "Jackson House" located at 503 First Street (2,065 total sf, excluding the basement). There is a detached garage in the northwest corner of the project site, and the side yard of the Jackson House is used for off-street parking for approximately seven vehicles. Additionally, a paved recreation/patio area is situated behind the Jackson House and Bryson House. The site currently contains approximately 28 trees, including those located along the frontages of First Street and D Street.

An aerial view of the project site is shown in Figure 3. The existing site plan and elevations are shown in Figure 4, and existing site context photos are shown in Figure 5.

SURROUNDING LAND USES

The project site is bounded by Second Street and existing mixed-use development to the north, D Street to the west, First Street to the south, and E Street and the Natsoulas Gallery to the east. The surrounding land uses consists of a mix of retail, single family, and apartment developments along First Street, D Street, and E Street. Adjacent parcels include a funeral home on D Street and Natsoulas Art Gallery on First Street adjacent to the TX Main House. The project site faces a landscaped buffer and the back of a retail building in a shopping plaza (i.e., Davis Commons) on the south side of First Street.

GENERAL PLAN AND ZONING DESIGNATIONS

The project site is in the Core Area Specific Plan (CASP), which also includes the City of Davis General Plan and its Land Use Map and Zoning. The General Plan and CASP Land Use designation of the site is Retail Stores. The Downtown of the Core Area (the area bounded by First and Third Streets and D Street and the railroad tracks) is intended to provide a concentration of stores and uses that allows each to benefit from the presence of the others. Retail uses at ground floor level with professional and administrative offices and residential units are encouraged for upper stories in this zone within the Core Area. Cultural and entertainment uses are also permitted at ground floor level. Total floor area may reach three times the site area. Parking structures are excluded from the calculations of floor area ratio.

The CASP further encourages retail uses at the ground floor level in the Retail Stores area, with professional and administrative offices and residential units in the upper stories. However, the CASP does not explicitly prohibit ground floor residential uses in the Retail Stores area, and does note that some residential uses exist in the Retail Stores area of the Downtown Core. The CASP, therefore, does not prohibit ground floor residential uses in the Retail Stores area, and the Planning Commission, or City Council, could find that the proposed project is consistent with the CASP and the General Plan, provided that the project as a whole is consistent with the CASP and the General Plan.

The project site is currently zoned Central Commercial (C-C). As stated in Section 40.14.030 of the City's Municipal Code, permitted uses in the C-C district shall be as follows:

(a) Retail stores, shops and offices supplying commodities or performing services such as department stores, specialty shops, banks, and other financial institutions, personal and business service establishments, antique shops, artists' supply stores and similar uses, but not including gasoline service stations.
(b) Restaurants, including outdoor eating areas and establishments, establishments serving alcoholic beverages, and similar enterprises, but not including formula fast food restaurants.
(c) Professional and administrative offices. First floor office uses discouraged in the downtown core as defined by the core area specific plan. Offices are not discouraged in C-C zones outside the downtown core.
(d) Medical clinics.
(e) Hotels and motels.
(f) Business and technical schools, and schools and studios for photography, art, music, and dance.
(g) Any other retail business or service establishment which the planning commission finds to be consistent with the purposes of this article and which will not impair the present or potential use of adjacent properties.
(h) Group care homes with six or fewer clients, subject to the provisions of Section 40.26.135.
(i) Family and group day care homes as defined in Section 40.01.010.
(j) Infill developments containing any of the above uses.
(k) Auto service stations with frontage on Fifth Street.
(l) Theaters and movie houses.
(m) Supportive housing.
(n) Transitional housing.
(o) Residential structures and apartments with densities up to those permitted in the R-H-D district.

The fraternity house that is currently located on the project site is a legal nonconforming use, based on a Settlement Agreement and Release of all Claims entered into by and between the City and Theta Xi in 1995. However, if two of the buildings are demolished and Theta Xi constructs a new fraternity house on the western lot (as proposed), the new building would not retain the legal nonconforming status under the City's Zoning Code. The fraternity house constitutes a "living group" use, which is a conditional use within the Central Commercial District where the project site is located. Therefore, the project would need approval of a Conditional Use Permit (CUP) for the proposed new fraternity house.

The existing General Plan Land Use Designation for the site, and the surrounding area is shown on Figure 6.

PROJECT DESCRIPTION

The proposed project includes merging the three lots located at 503, 509, and 515 First Street and re-subdividing the property into two lots for the redevelopment of one parcel with a consolidated 35-bed, three-story building. The project would include demolition of the buildings at 503 and 509 First Street (Bryson House, Jackson House, and a garage structure), the retention of the building at 515 First Street (TX Main House) on a reconfigured lot of

approximately 9,450 sf, and the construction of a new three-story fraternity on the new 10,350 sf lot.

The proposed site plan and first floor plan is shown in Figure 7. The proposed elevations are shown in Figure 8, and visual simulations of the three-story building are shown in Figure 9.

The existing and proposed housing characteristics are summarized in Table 1.

Table 1: Existing Versus Proposed Housing Characteristics

	Existing Jackson House	***Existing Bryson House***	***Existing TX Main House***	***Total Existing Houses***	***Proposed New House***
# of stories	2	2	2	2	3
Basement	Partial	Partial	Partial	Partial	Partial
Site area sf	6,900	6,900	6,000	19,800	10,350
Building area (gross sf)	2,065	2,009	3,964	8,038	9,802
Ground floor	1,282	1,208	2,000	4,490	3,100
2nd floor	783	801	1,964	3,548	3,351
3rd floor	--	--	--	--	3,351
Total sf (excluding basement)	2,065	2,009	3,964	8,038	9,802
Basement sf	720	433	450	1,603	1,684
Storage/laundry sf	96	0	0	96	238
Trash enclosure sf	0	0	0	0	168
Garage sf	450	0	0	450	0
Libraries/meeting rooms	1	0	1	2	4
Kitchen	0	0	1	1	1
Living room	0	0	1	1	1
Dining room	0	0	1	1	1
On-site parking spaces	6	0	0	6	13
Bike barn # of bicycles)	0	0	0	0	24
Additional bicycle parking	0	0	0	0	24
# of bedrooms	7	7	7	21	18
# beds (single rooms)	5	2	0	7	1
# beds (double rooms)	2	4	5	11	18
# beds (triples rooms)	0	1	2	3	0
# beds (4-man rooms)	0	0	0	0	16
Total beds	9	13	16	38	35
# of bathrooms	1	2	2	5	9
# toilets	2	3	2	7	10
# basins	4	3	3	10	18
# showerheads	2	3	4	9	9

As shown in the table, the proposed thee-story fraternity building would provide 35 total beds and nine total bathrooms. This would result in three fewer beds and four additional bathrooms compared to the existing houses. The project would also consolidate all living and study areas into the proposed three-story building with partial basement, a detached laundry, storage building, and trash enclosure, and associated site landscaping with exterior meeting and gathering spaces. Due to the increase in building height and square footage, the densification of the parcel would be increased by 50 percent.

The proposed three-story fraternity building architectural theme would be similar to the Craftsman Bungalow style of the existing houses being replaced. The development would be handicap-accessible and would incorporate energy efficiency measures. Sustainable design

features would include high levels of envelope insulation, high efficiency HVAC, LED Lighting, solar shading devices, electric vehicle charging outlets, and a low water use landscaping and irrigation system. Landscaped bio-swales would also be incorporated into the First and D street landscaping edges. It is anticipated that the project would target a "LEED Silver" equivalency.

There would also be a dedicated "Bike Barn" with bike maintenance space and a one-to-one ratio of covered and secured bike storage to beds. Additional guest bike parking would be provided along the landscape strip on First Street. The project would include a new parking lot accessed from D Street through a secured vehicle gate. The new concealed off-street parking and recreation area in the rear would significantly increase the number of conforming off-street parking spaces available to the fraternity.

During construction, the TX Main House would continue to serve the fraternity's housing and study needs. Once the proposed three-story fraternity building is completed, the fraternity would consolidate all of its activities onto the new western parcel. Once the fraternity is consolidated into the western parcel and associated three-story building, the TX Main House, along with its expanded lot, would be vacated and placed for sale or lease to a third party on the open market. As such, the TX Main House would not be retained for TX Fraternity uses.

Tier III Design Review approval is required because the project site is within 300-feet of a designated historical resource, Dresbach-Hunt-Boyer Home, and the site is within the Conservation Overlay District. According to the Davis Municipal Code, the Conservation Overlay District supports planning policy stipulating that new development and renovation of existing buildings should respect the traditional scale and character found within a defined area. Conservation Overlay Districts are designated under Chapter 40 of the Code. However, some individual buildings within the Conservation Overlay District are designated Landmarks or Merit Resources in the Davis Register of Historic Resources.

REQUESTED ENTITLEMENTS AND OTHER APPROVALS

The City of Davis is the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050.

This document will be used by the City of Davis in consideration of the following actions:

- Approval of the requested merging and re-subdivision of the three parcels (APNs 070-244-004, 070-244-005, and 070-244-006) to create two parcels that will accommodate the proposed project, while retaining the building at 515 First Street.
- Approval of the Conditional Use Permit to continue the existing living group use at the site.
- Approval of the Tier III Design Review.
- Approval of the demolition permit for the two buildings at 503 and 509 First Street.
- Approval of the building permit for the proposed three-story building.
- Approval of the Focused EIR.
- Adoption of the Mitigation Monitoring and Reporting Program (MMRP).

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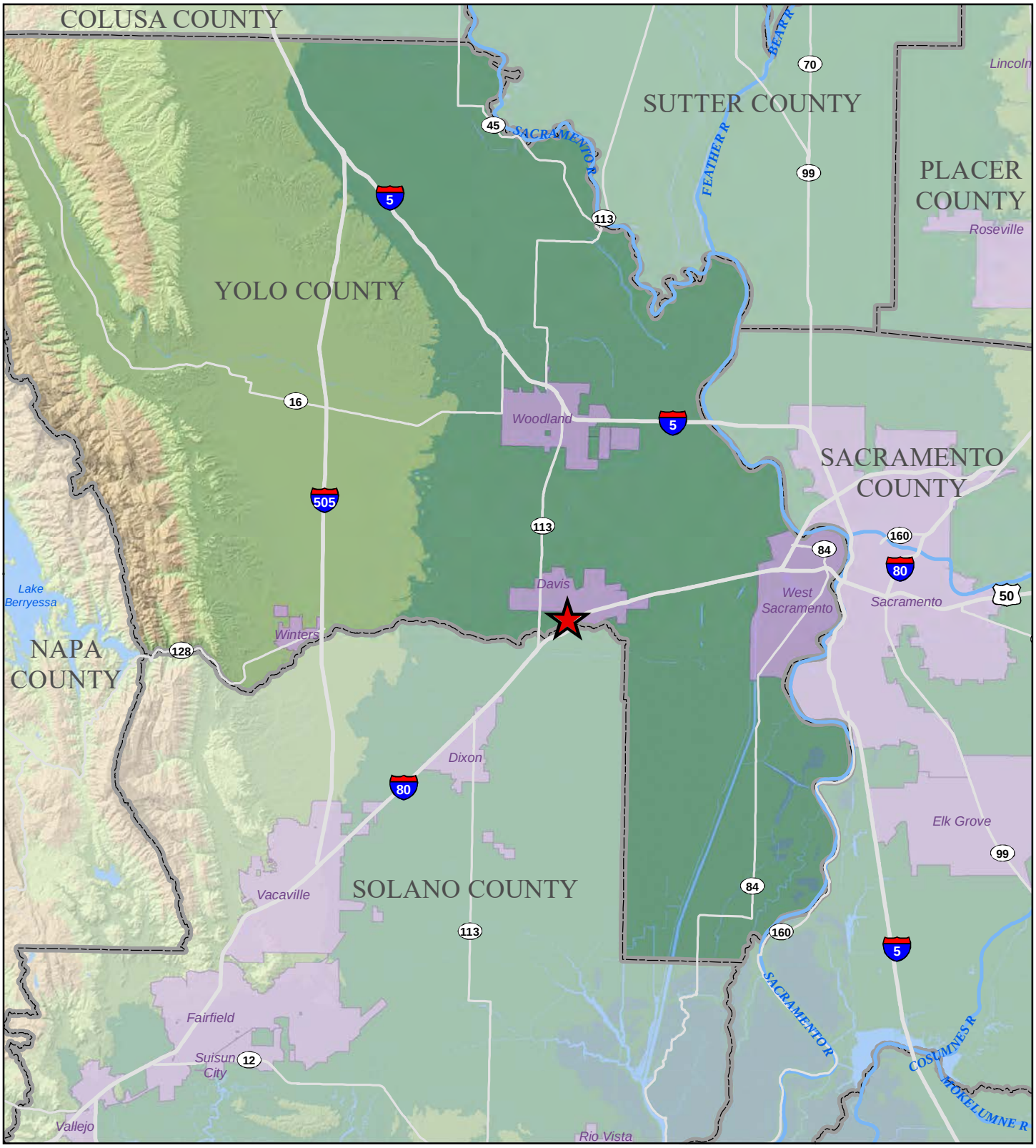

CITY OF DAVIS - THETA XI PROJECT

Figure 1. Regional Location Map

Legend

- Project Location
- City Area
- County Boundary

0 2½ 5
Miles

Sources: CalAtlas; Yolo County; Sacramento County; Placer County; Solano County. Map date: January 16, 2019.

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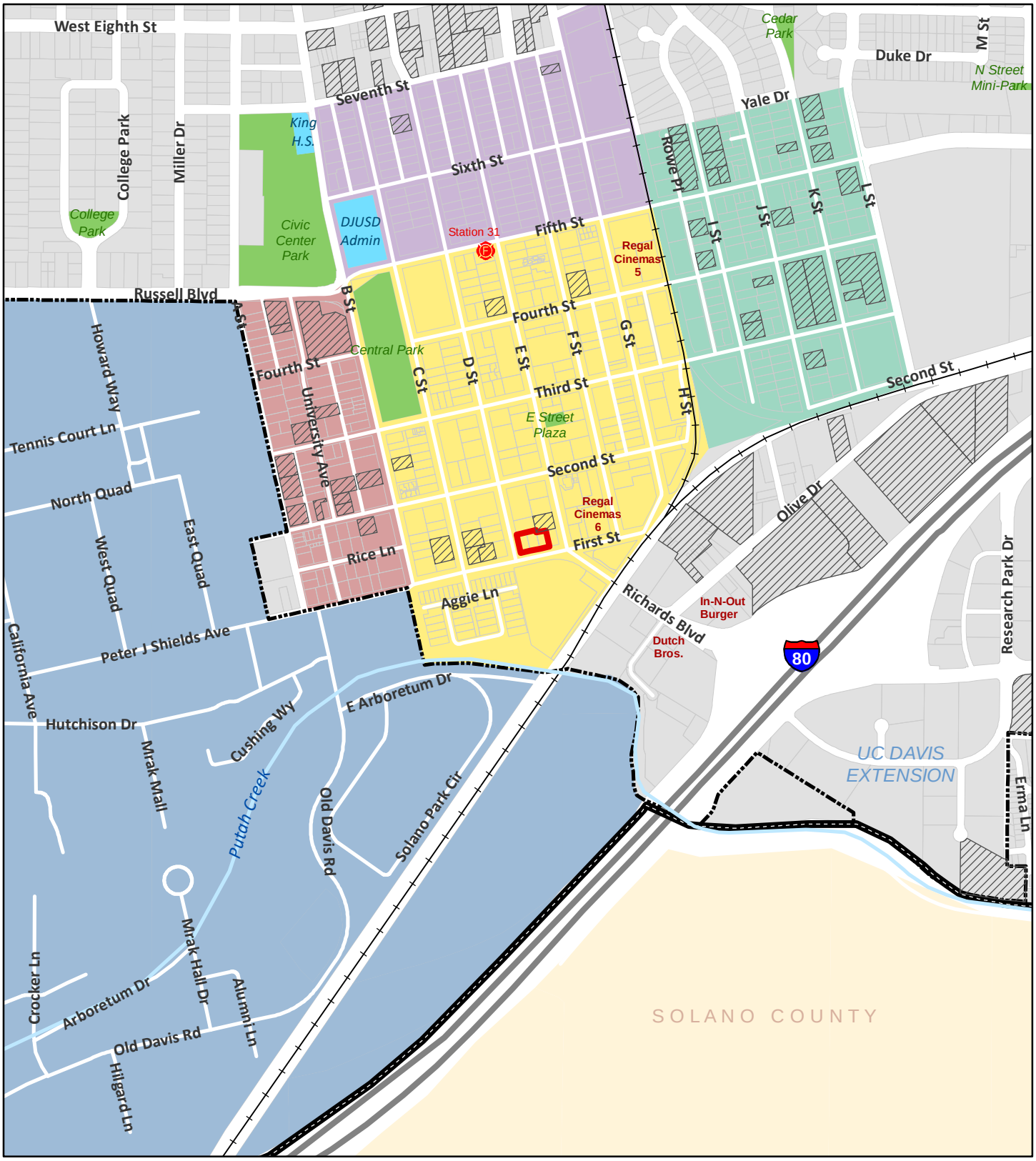

Legend

- Project Boundary
- Davis City Boundary
- Yolo County Boundary
- UCDavis
- Fire Station
- City Park
- Public School
- Apartments

Neighborhood Districts

- Downtown Davis
- Old East Davis
- Old North Davis
- University Avenue

CITY OF DAVIS - THETA XI PROJECT

Figure 2. Vicinity Map

0 250 500 Feet

Sources: Yolo County; City of Davis; CalTrans. Map date: January 16, 2019.

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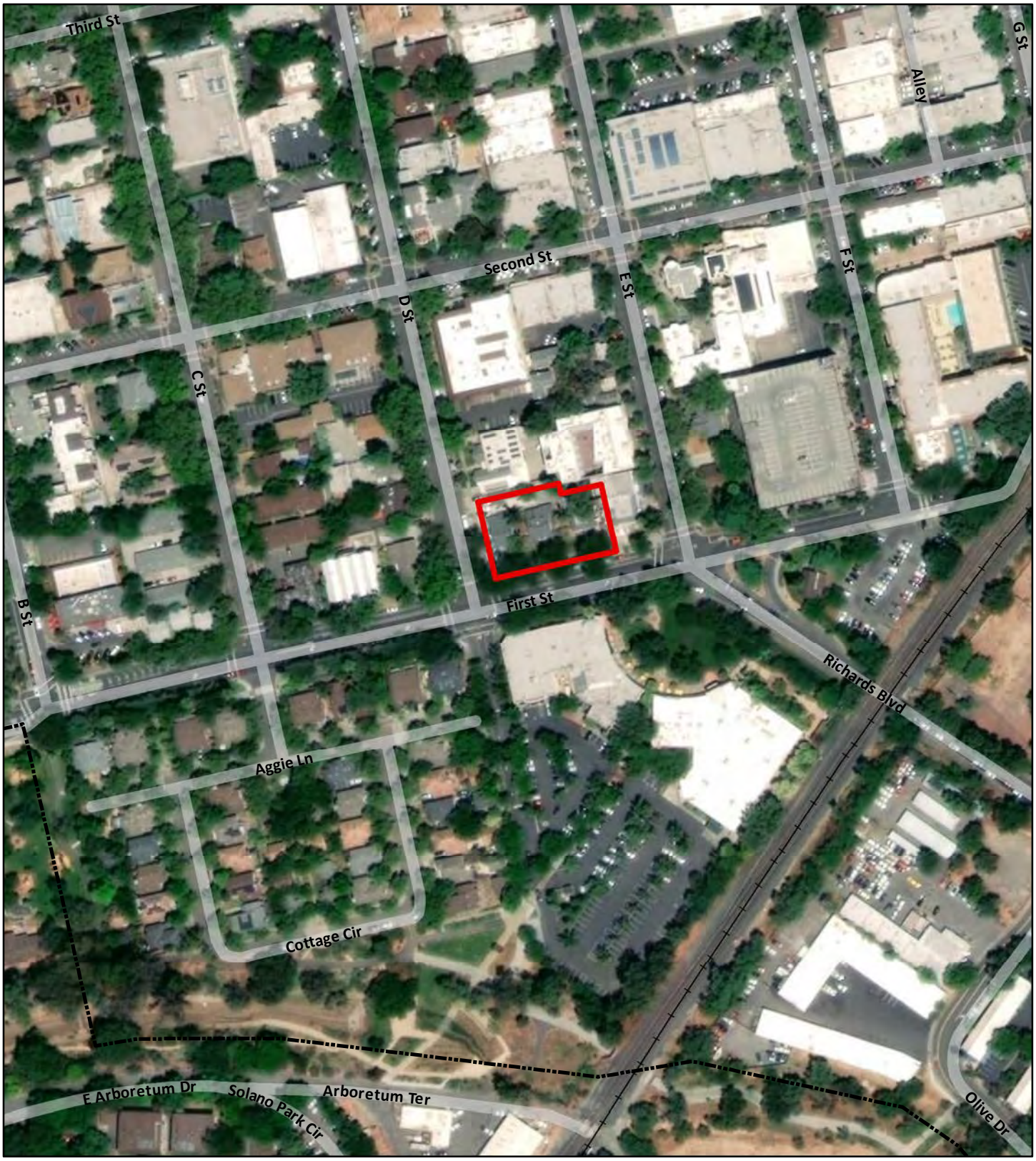

CITY OF DAVIS - THETA XI PROJECT

Figure 3. Aerial View of Project Site

Legend

Project Boundary

Davis City Boundary

0 100 200

Feet

Sources: ArcGIS Online World Imagery Map Service; Yolo County; City of Davis; CalTrans. Map date: January 16,

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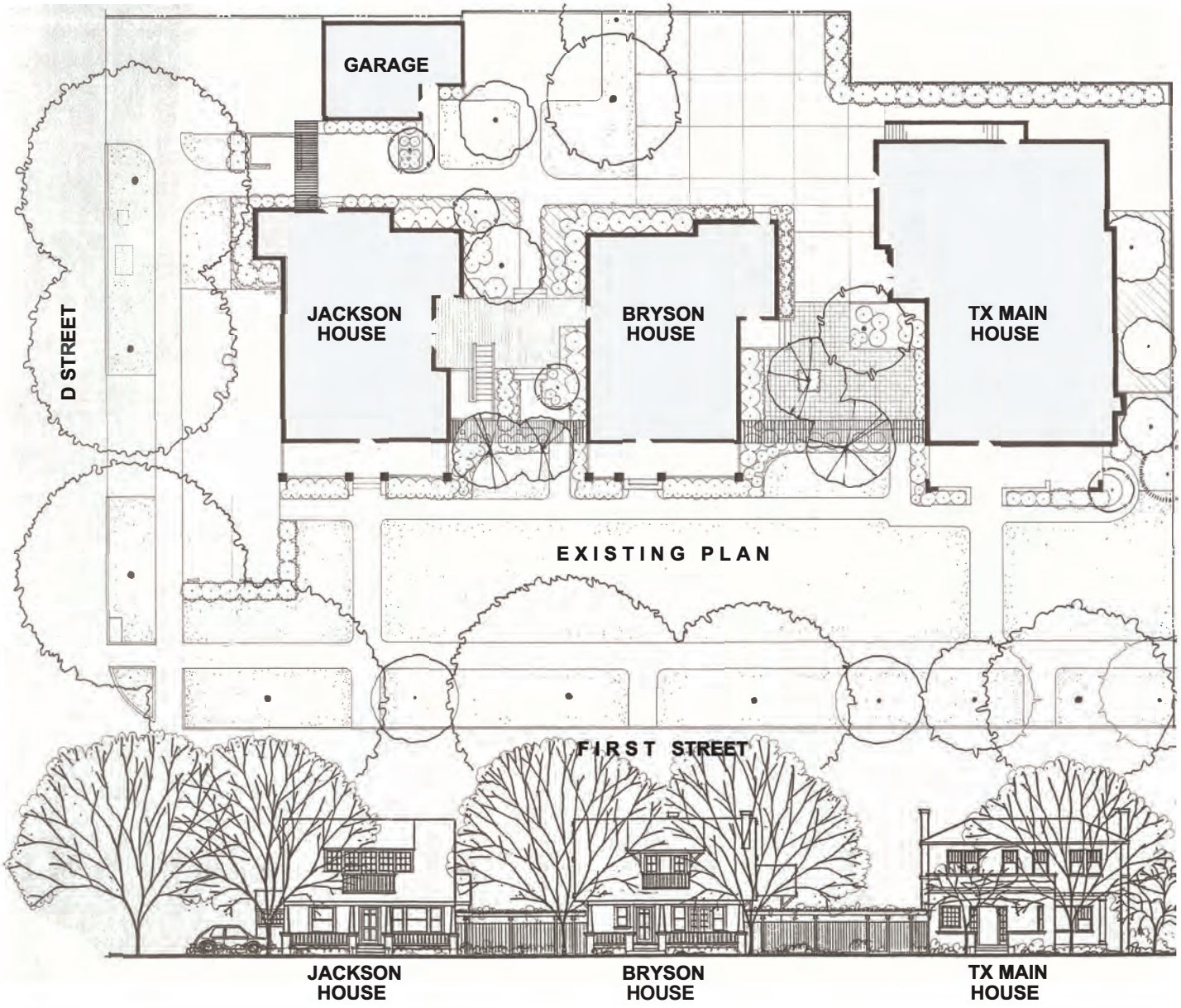

CITY OF DAVIS - THETA XI PROJECT

Figure 4. Existing Site Plan and Elevations

Source: YHLA Architects, January 3, 2018.
Map date: January 16, 2019.

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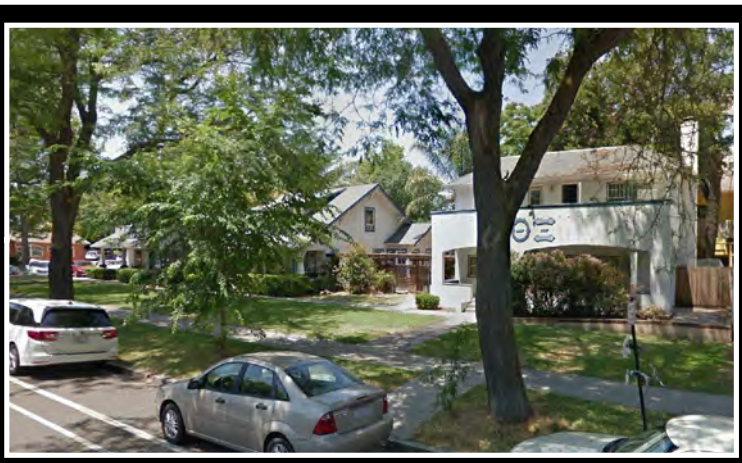
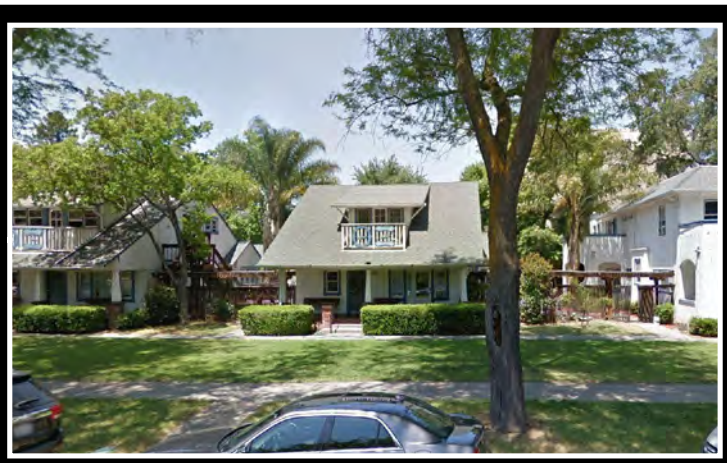


View northwest on First Street

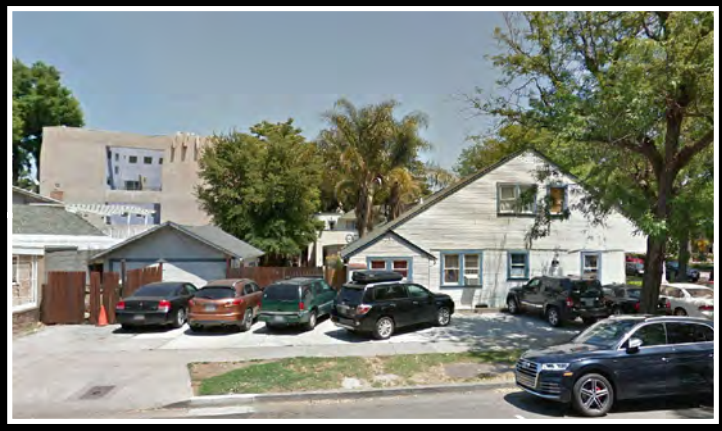


View north on First Street - Bryson House

View northeast on First Street

View north on First Street - Jackson House

View north on First Street - TX Main House



View east on D Street - Garage and Jackson House

CITY OF DAVIS - THETA XI PROJECT

Figure 5. Existing Site Context Photos

Sources: Google Maps Street View, January 16, 2019.

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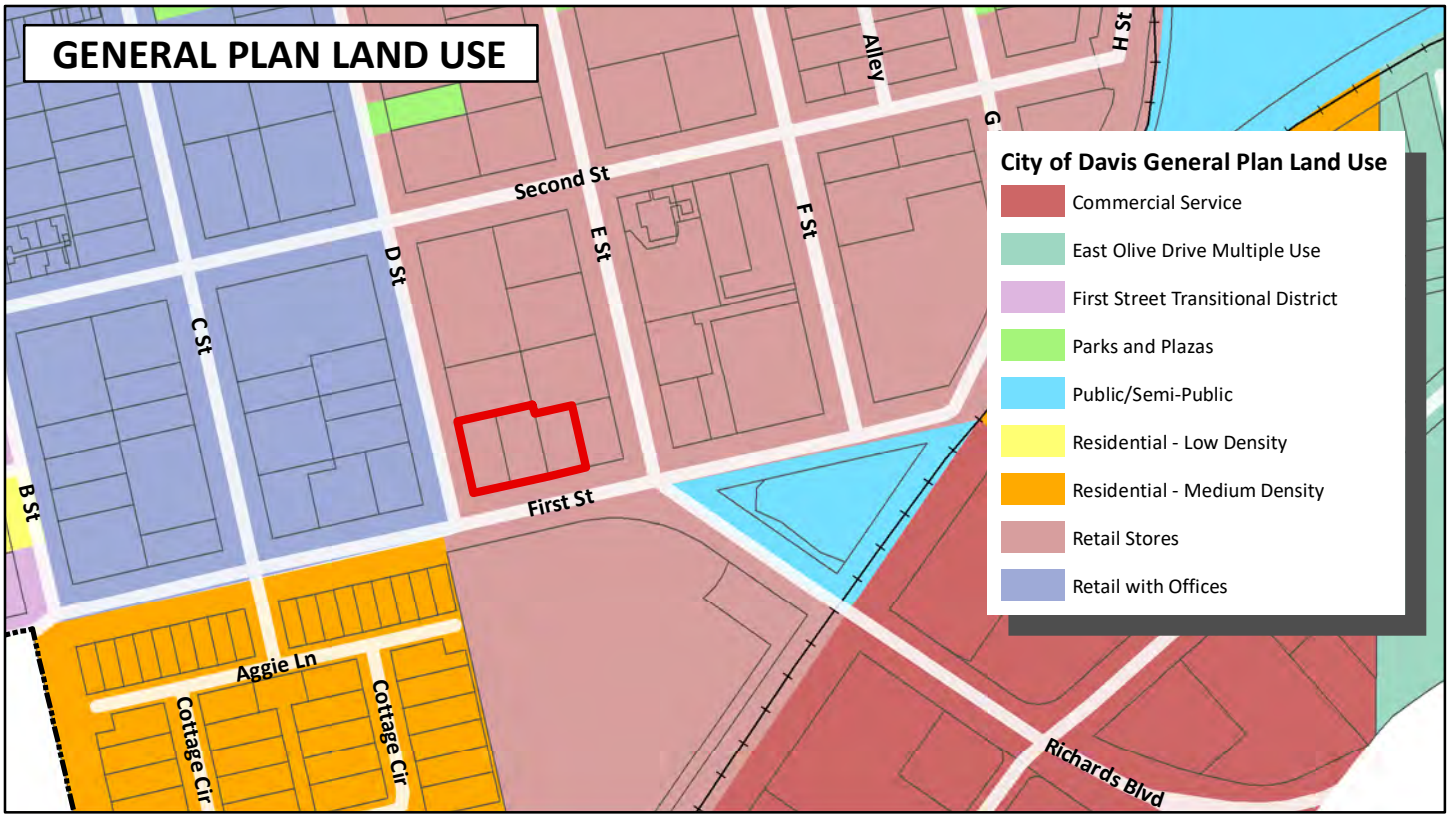

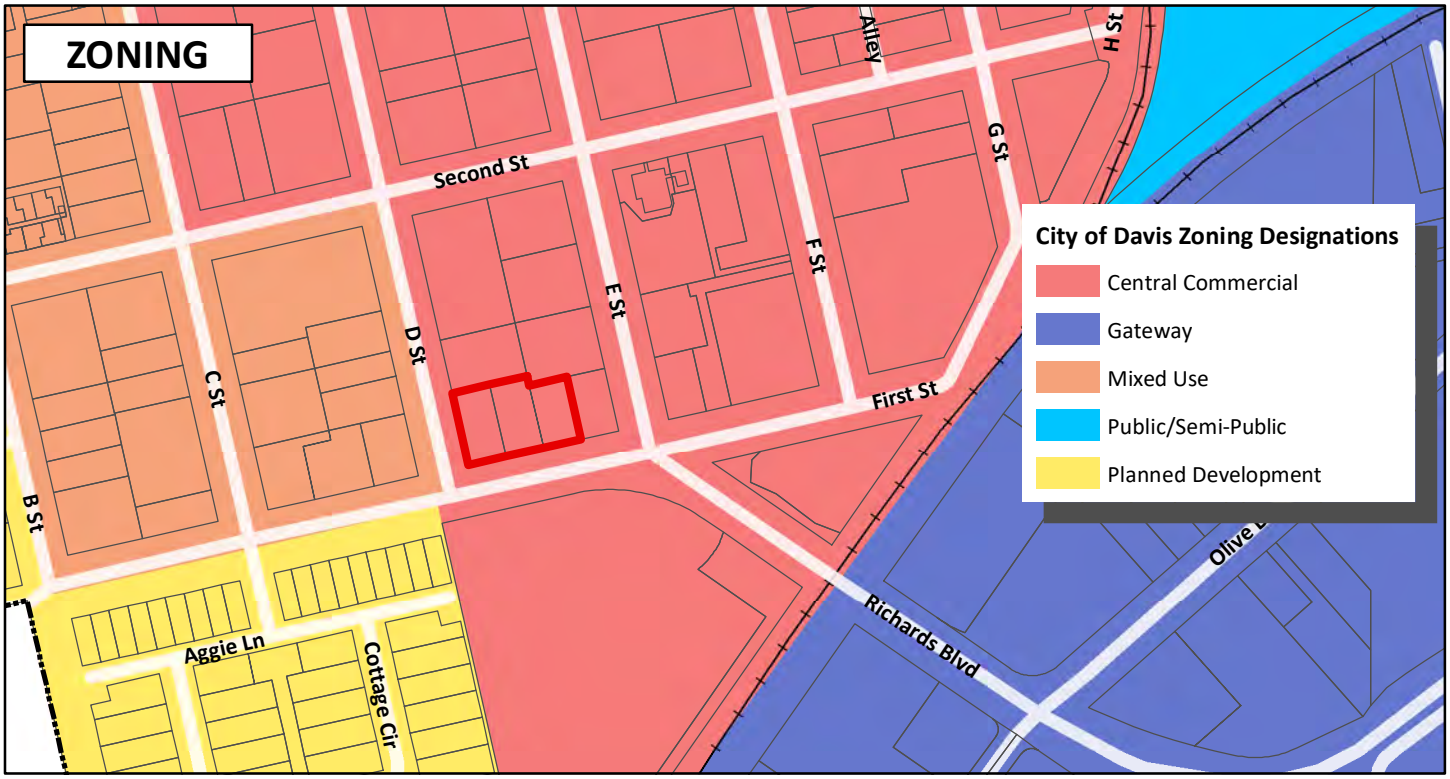

CITY OF DAVIS - THETA XI PROJECT

Figure 6. Existing General Plan and Zoning

Legend

Project Boundary

Davis City Boundary

0 100 200

Feet

Sources: ArcGIS Online World Imagery Map Service; Yolo County; City of Davis; CalTrans. Map date: January 16, 2019.

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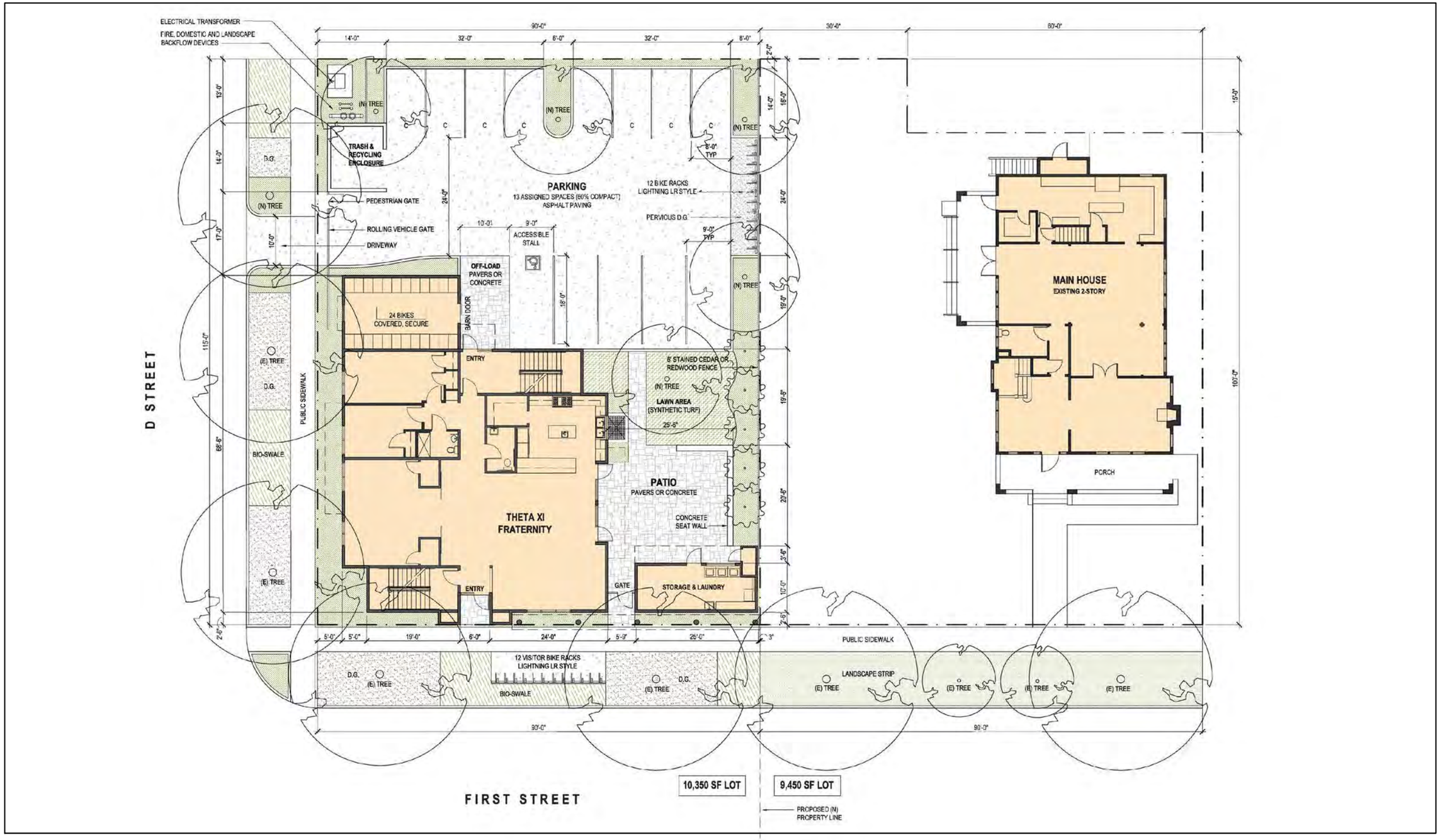

CITY OF DAVIS - THETA XI PROJECT

Figure 7. Proposed Site and First Floor Plan

Source: YHLA Architects, January 3, 2018.
Map date: January 17, 2019.

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CITY OF DAVIS - THETA XI PROJECT

Figure 8. Proposed Elevations

Source: YHLA Architects, January 3, 2018.
Map date: January 17, 2019.

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View from 1st and D Streets looking northeast

View from north looking south

View from D Street looking southeast

View from 1st Street looking northwest

Birdseye view from 1st and D Streets looking northeast

View from northeast looking southwest

CITY OF DAVIS - THETA XI PROJECT

Figure 9. Visual Simulations

Source: YHLA Architects, January 3, 2018.
Map date: January 17, 2019.

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ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

Two of the environmental factors listed below would have potentially significant impacts as a result of development of this project, as described on the following pages.

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

DETERMINATION

On the basis of this initial evaluation:

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

Signature _____ Date _____

EVALUATION INSTRUCTIONS

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

EVALUATION OF ENVIRONMENTAL IMPACTS

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

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

ENVIRONMENTAL CHECKLIST

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

I. AESTHETICS

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

Responses to Checklist Questions

Responses a), b): A scenic vista is an area that is designated, signed, and accessible to the public for the express purposes of viewing and sightseeing. This includes any such areas designated by a federal, State, or local agency. Federal and State agencies have not designated any such locations within the City of Davis for viewing and sightseeing. Similarly, the City of Davis, according to the City of Davis General Plan Program EIR, has determined that the Planning Area of the General Plan has no officially designated scenic highways, corridors, vistas, or viewing areas.[1]

Additionally, there are no other identified scenic resources nearby that would be affected by development of the proposed project, including trees, rocks, outcroppings, and historic buildings. Given that established scenic vistas or scenic resources are not located on or adjacent to the proposed project site, the proposed project would have ***no impact*** related to scenic vistas or scenic resources. This environmental issue will not be addressed further in the EIR.

Response c): Project implementation would result in the development of a residential project on a site that is currently developed with three 2-story residential buildings, totaling approximately 19,800 square feet. From east to west, the fraternity houses include the "TX Main House" located at 515 First Street (3,964 total sf, excluding the basement), the "Bryson House" located at 509 First Street (2,009 total sf, excluding the basement), and the "Jackson House" located at 503 First

[1] City of Davis. Draft Program EIR [pg. 5-2]. January 2000.

Street (2,065 total sf, excluding the basement). There is a detached garage in the northwest corner of the project site, and the side yard of the Jackson House is used for off-street parking for approximately seven vehicles. Additionally, a paved recreation/patio area is situated behind the Jackson House and Bryson House. The site currently contains approximately 28 trees, including those located along the frontages of First Street and D Street.

The proposed project includes merging the three lots located at 503, 509, and 515 First Street and re-subdividing the property into two lots for the redevelopment of one parcel with a consolidated 35-bed, three-story building. The project would include demolition of the buildings at 503 and 509 First Street (Bryson House, Jackson House, and a garage structure), the retention of the building at 515 First Street (TX Main House) on a reconfigured lot of approximately 9,450 sf, and the construction of a new three-story fraternity on the new 10,350 sf lot.

The proposed thee-story fraternity building would provide 35 total beds and nine total bathrooms. This would result in three fewer beds and four additional bathrooms compared to the existing houses. The project would also consolidate all living and study areas into the proposed three-story building with partial basement, a detached laundry, storage building, and trash enclosure, and associated site landscaping with exterior meeting and gathering spaces. Due to the increase in building height and square footage, the densification of the parcel would be increased by 50 percent.

The proposed three-story fraternity building architectural theme would be similar to the Craftsman Bungalow style of the existing houses being replaced. As shown in Figure 8, the building facades would utilize a variety of architectural features and materials to provide visual interest, avoid monotonous building lines, and include a variety of colors and materials to enhance the visual appearance of the structures.

The project would be subject to the City's site plan and architectural approval process. As described in Article 40.31.020 of the Davis Municipal Code, the purpose of the site plan and architectural approval process is to determine compliance with the Article and to promote the orderly and harmonious growth of the city and the stability of land values and investments and the general welfare; and to help prevent the impairment or depreciation of land values and the development by the erection of structures, additions or alterations thereto without proper attention to siting, or of unsightly, undesirable or obnoxious appearance; and to prepare for and help to prevent problems arising affecting the community due to the nature of existing and planned uses of land and structures, such as traffic, public, safety, public facilities, utilities and services, among others.

Additionally, as noted previously, Tier III Design Review approval is required because the project site is within 300-feet of a designated historical resource, Dresbach-Hunt-Boyer Home, and the site is within the Conservation Overlay District. According to the Davis Municipal Code, the Conservation Overlay District supports planning policy stipulating that new development and renovation of existing buildings should respect the traditional scale and character found within a defined area. Conservation Overlay Districts are designated under Chapter 40 of the Code. However, some individual buildings within the Conservation Overlay District are designated Landmarks or Merit Resources in the Davis Register of Historic Resources.

The City of Davis General Plan includes goals and policies designed to protect visual resources and promote quality design in urban areas. The proposed project must be developed to be consistent with the policies and goals of the Davis General Plan. Under Article 40.31.020 of the Davis Municipal Code, a site plan and architectural (design review) application shall be approved,

conditionally approved, or denied by the Community Development and Sustainability Director, Planning Commission, or City Council. Such application may be approved only if the following findings are made:

a) The proposed project is consistent with the objectives of the General Plan, complies with applicable zoning regulations, and is consistent with any adopted design guidelines for the district within which the project is located;

b) The proposed architecture, site design, and landscape are suitable for the purposes of the building and the site and will enhance the character of the neighborhood and community;

c) The architectural design of the proposed project is compatible with the existing properties and anticipated future developments within the neighborhood in terms of such elements as height, mass, scale, and proportion;

d) The proposed project will not create conflicts with vehicular, bicycle, or pedestrian transportation modes of circulation; and

e) The location, climate, and environmental conditions of the site are adequately considered in determining the use of appropriate construction materials and methods. Sufficient conditions are included with the approval to ensure the long-term maintenance of the project.

While development of the proposed project would change and alter the existing visual character of the project site, these changes would not degrade the visual quality of the site or the surrounding areas. The proposed building incorporates a mix of materials, architectural features, varied roof lines, building recesses and articulation which provide visual interest and maintain the City's urban character.

Various temporary visual impacts could occur as a result of construction activities as the project develops, including grading, equipment and material storage, and staging. Though temporary, some of these impacts could last for several weeks or months during any single construction phase. The loss of existing landscaping and trees would also be a temporary impact until new landscaping matures. Because impacts would be temporary and viewer sensitivity in the majority of cases would be slight to moderate, significant impacts are not anticipated.

Adherence to the City's Municipal Code would result in a development that is cohesive, well-designed, and visually pleasing. Although project implementation would alter the existing visual character of the project site, this alteration would not substantially degrade the visual quality of the project site. The proposed project would be consistent with the City of Davis General Plan, and would adhere to the requirements of the City's site plan and architectural approval process. Therefore, this is considered a ***less than significant*** impact, and no additional mitigation is required.

Response d): The project site is currently developed and contains three fraternity houses. Existing lighting at the project site includes exterior building lighting, interior building lighting, and street lighting. There is a potential for the proposed project to create new sources of light and glare, although the amount of light and glare would likely be similar to the existing condition. Examples of lighting would include construction lighting, exterior building lighting, interior building lighting, and automobile lighting. Examples of glare would include reflective building materials and automobiles.

There is a potential for the implementation of the proposed project to introduce new sources of light and glare into the project area. However, the project will be required to comply with the City's Outdoor Lighting Control Ordinance which includes provision of a lighting plan as part of the construction documents as a standard City requirement. Compliance with the City of Davis Outdoor Lighting Control Ordinance would ensure that all exterior lighting associated with the project is properly shielded and directed downward in order to eliminate light spillage onto adjacent properties, and reduce impacts to "dark skies" to the greatest extent feasible. Therefore, implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

II. AGRICULTURE AND FORESTRY RESOURCES

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

Responses to Checklist Questions

Responses a), e): The project site is currently developed and there is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance on the project site. The project site is not currently used for agricultural operations, and has not been used for agricultural operations in many decades. There are no agricultural operations or agriculturally zoned lands in the vicinity of the project site. Because the proposed project only includes redevelopment of the project site within an urban area of the City designated for urban uses, the project has no potential to convert any off-site agricultural land, Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. Therefore, there is ***no impact***. This environmental issue will not be addressed further in the EIR.

Response b): The project site is not zoned for agricultural use nor is it under a Williamson Act contract. The proposed project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. Implementation of the proposed project would have ***no impact*** relative to this issue.

Response c): The project site is not forest land (as defined in Public Resources Code section 1222(g)) or timberland (as defined in Public Resources Code section 4526). The proposed project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland. Implementation of the proposed project would have ***no impact*** relative to this issue.

Response d): The project site is not forest land. The proposed project would not result in the loss of forest land or conversion of forest land to non-forest use. Implementation of the proposed project would have ***no impact*** relative to this issue.

III. AIR QUALITY

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

Existing Setting

The project site is located within the Yolo-Solano Air Quality Management District (YSAQMD). This agency is responsible for monitoring air pollution levels and ensuring compliance with federal and state air quality regulations within the Sacramento Valley Air Basin (SVAB) and has jurisdiction over most air quality matters within its borders.

Responses to Checklist Questions

Responses a)-c):

Operational Emissions

The proposed project would be a direct and indirect source of air pollution, in that it would generate and attract vehicle trips in the region (mobile source emissions), require the use of grid energy (natural gas and electricity), and generate area source emissions. The mobile source emissions would be entirely from vehicles, while the area source emissions would be primarily from landscape fuel combustion, consumer products, and architectural coatings.

The proposed project would result in the construction of replacement residential housing on a site that currently contains residential uses. The three existing residences were constructed in approximately 1912. The proposed three-story fraternity building would provide 35 total beds and nine total bathrooms, and the existing TX Main House, along with its expanded lot, would be vacated and placed for sale or lease to a third party on the open market. As such, the TX Main House would not be retained for TX Fraternity uses once the three-story building is complete. The consolidation would result in three fewer beds and four additional bathrooms compared to the existing houses. The project is consistent with the existing fraternity operations and would not increase the capacity of the project site. Nevertheless, out of an abundance of caution, the operational emissions resulting from the project were quantified and compared to the YSAQMD thresholds. Additionally, the operational emissions from the existing three residences were quantified and compared to the proposed project's operational emissions.

The California Emission Estimator Model (CalEEMod)™ (v.2016.3.2) was used to estimate operational emissions for the proposed project and the existing three residences, without any mitigation measures incorporated. Table 2 shows the operational emissions, which includes both mobile and area source emissions of criteria pollutants, that would result from the existing three

residences. Table 3 shows the operational emissions, which includes both mobile and area source emissions of criteria pollutants, that would result from the proposed project. Detailed CalEEMod emissions calculations are presented in Appendix A.

Table 2: Existing Residences Operational Emissions (Unmitigated Scenario)

Emissions	*ROG (tons/year)*	*NO_X (tons/year)*	*PM_{10} (lbs/day)*	*CO (tons/year)*
Area	1.2594	0.0226	0.2099	1.6374
Energy	6.1000e-004	5.1800e-003	4.2000e-004	2.2000e-003
Mobile	0.1985	0.7026	4.6654	2.4634
Total	**1.4585**	**0.7303**	**4.8757**	**4.1029**
Threshold	**10**	**10**	**80**	**Violation of State Ambient Air Quality Standard for CO**
Above Threshold?	**N**	**N**	**N**	**N/A**

SOURCE: CALEEMOD (V.2016.3.2)

Table 3: Proposed Project Operational Emissions (Unmitigated Scenario)

Emissions	*ROG (tons/year)*	*NO_X (tons/year)*	*PM_{10} (lbs/day)*	*CO (tons/year)*
Area	0.0653	1.1200e-003	5.3000e-004	0.0969
Energy	5.7000e-004	4.8500e-003	3.9000e-004	2.0600e-003
Mobile	0.0299	0.2106	4.8558	0.3189
Total	**0.0958**	**0.2166**	**4.8568**	**0.4178**
Threshold	**10**	**10**	**80**	**Violation of State Ambient Air Quality Standard for CO**
Above Threshold?	**N**	**N**	**N**	**See Response D**

SOURCE: CALEEMOD (V.2016.3.2)

The YSAQMD has established an operational emissions threshold of significance for ozone precursors of 10 tons per year for ROG and NO_X, and 80 pounds per day for PM_{10}. The YSAQMD utilizes a screening process and separate model for CO impacts. As shown in Table 2, the ROG and CO emissions resulting from the existing residences (Table 2) are approximately ten-times the amount resulting from the proposed project (Table 3). This is likely because the existing residences were constructed in approximately 1912 and, as such, are less energy efficient than the proposed three-story building.

It is noted that the earliest operational year available in CalEEMod, year 2000, was used to calculate the operational emissions of the existing residences. However, the three existing residences were constructed in approximately 1912. California' building requirements have become stricter over time, resulting in more energy efficient buildings. As such, the ROG, NO_X, PM_{10}, and CO emissions resulting from operation of the existing residences are likely much higher than what is shown in Table 2.

Further, as shown in Table 3, project generated emissions would be below the YSAQMD's threshold for ROG, NO_X, PM_{10}, and CO. This is a ***less than significant*** impact.

Construction Emissions

Construction activities associated with construction and implementation of the proposed project would result in temporary short-term emissions associated with vehicle trips from construction workers, operation of construction equipment, and the dust generated during construction activities. These temporary and short-term emissions would generate additional ozone

precursors (ROG and NOx) as well as PM_{10}, which could exacerbate the County's existing non-attainment status for these criteria pollutants. It should be noted that construction vehicle emissions requirements in California have become stricter over time.

Below is an estimated construction schedule for the proposed project:

- Demolition: July 1, 2019 – July 12, 2019
- Site Preparation: July 3, 2019 – July 26, 2019
- Grading: July 26, 2019 – August 22, 2019
- Building Construction: September 18, 2019 – January 7, 2020
- Paving: August 22, 2019 – September 18, 2019
- Architectural Coating: January 7, 2020 – March 2, 2020

CalEEMod was used to estimate construction emissions for the proposed project. Table 4 shows the construction emissions that would result from the proposed project. Detailed CalEEMod emissions calculations are presented in Appendix A.

Table 4: Project Construction Emissions (Unmitigated Scenario)

Emissions Year	*ROG (tons/year)*	*NO_X (tons/year)*	*PM_{10} (lbs/day)*	*CO (tons/year)*
2019	0.1357	1.3445	26.6600	0.9831
2020	0.0865	0.2341	1.8713	0.2200
Maximum	**0.1357**	**1.3445**	**26.6600**	**0.9831**
Threshold	**10**	**10**	**80**	**Violation of State Ambient Air Quality Standard for CO**
Above Threshold?	**N**	**N**	**N**	**See Response D**

SOURCE: CALEEMOD (V.2016.3.2)

The YSAQMD has established a construction emissions threshold of significance for ozone precursors of 10 tons per year for ROG and NO_X, and 80 pounds per day for PM_{10}. The YSAQMD utilizes a screening process and separate model for CO impacts. As shown in the table above, construction emissions of ROG would be at its maximum in year 2019, with approximately 0.1357 tons of ROG, which is below the 10 tons per year threshold for ROG. Year 2019 would be the peak year for construction emissions of NO_x, with approximately 1.3445 tons of NO_x in that year, which is below the 10 tons per year threshold for NO_x. Construction emissions of PM_{10} would be at its maximum in year 2019, with approximately 26.66 tons of ROG, which is below the 80 tons per year threshold for ROG. This is a ***less than significant*** impact.

Response d):

Odors

According to the California Air Resources Board (CARB) Handbook, some of the most common sources of odor complaints received by local air districts are sewage treatment plants, landfills, recycling facilities, waste transfer stations, petroleum refineries, biomass operations, autobody shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations. The surrounding land uses consists of a mix of retail, single family, and apartment developments along First Street, D Street, and E Street. Accordingly, the proposed project is not located in the vicinity of any substantial objectionable odor sources such as those mentioned above.

Operation of the proposed project would not generate notable odors. The proposed project is a residential development, which is compatible with the surrounding land uses. Residential land uses are not typically associated with the creation of substantial objectionable odors. Occasional mild odors may be generated during landscaping maintenance (equipment exhaust), but the project would not otherwise generate odors.

Diesel fumes from construction equipment and delivery trucks are often found to be objectionable; however, construction of the proposed project would be temporary and diesel emissions would be temporary and regulated. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

Other Emissions

Sensitive receptors are those parts of the population that can be severely impacted by air pollution. Sensitive receptors include children, the elderly, and the infirm. The residents located to the north and west of the project site are considered sensitive receptors. However, as described below, the construction and operation of the proposed project would not contribute substantial concentrations of pollutants to sensitive receptors. Additionally, the proposed project would not contribute to any CO hotspots.

There are no existing or planned schools within a quarter mile of the project site. The closest school is UC Davis, which located approximately 0.29 miles to the west of the site.

There are several existing residences located within the project vicinity. However, implementation of the proposed project would not expose these sensitive receptors to substantial pollutant concentrations. Air emissions would be generated during the construction phase of the project, but would be short term in duration. The construction phase of the project would be temporary and short-term, and the construction-related emissions would not exceed the YSAQMD thresholds. As described under Response a) – c) above, the proposed project would not generate significant concentrations of air emissions.

The CO screening approach outlined in the YSAQMD's *Handbook for Assessing and Mitigating Air Quality Impacts* was used to estimate whether or not the proposed project's traffic impact would cause a potential CO hotspot. The CO screening approach uses the following screening criteria:

- Does the peak-hour Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity reduce to an unacceptable LOS (typically LOS E or F[2])? or
- Will the proposed project substantially worsen an already existing peak-hour LOS F on one or more streets or at one or more intersections in the project vicinity? (Note: This includes situations where the average delay would increase by 10 seconds or more when project-generated traffic is included.)

If the answer to the screening criteria is "yes," then the proposed project can be said to have the potential to create a violation of the CO standard and further modeling may be warranted. If the answer to the screening criteria is "no," then further modeling is not warranted and the proposed project would not create a violation of the CO standard.

[2] The City of Davis has generally established LOS E as the significance level for intersection operations within the City. However, LOS F is acceptable in the downtown core area, and within areas with a corridor plan. The project site is located in the downtown core area. As such, LOS F was used in the CO screening analysis.

As discussed in Section XVII, Transportation, the proposed project would not reduce LOS on any streets or intersections to an unacceptable LOS, or substantially worsen an already existing peak-hour LOS F on any streets or intersections.

Implementation of the proposed project would not result in a significant increased exposure of sensitive receptors to localized concentrations of toxic air contaminants (TACs), or create a CO hotspot. This project would have a ***less than significant*** impact relative to this topic.

IV. BIOLOGICAL RESOURCES

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

Responses to Checklist Questions

Response a): Special-status plant or wildlife species have not been recorded on the project site. The project site is currently developed and disturbed. There is no riparian or other sensitive habitat types located on-site. Although various special-status plant species have been documented within five-miles of the site, none are present on the project site. Therefore, the proposed project would have ***no impact*** on special-status plants.

Historical and continuing site disturbance and urban activities makes the presence of many special-status animals on the project site unlikely. However, nesting birds can utilize the on-site trees. The bird species which have been documented to occur within five miles of the project site include: burrowing owl (*Athene cunicularia*), northern harrier (*Circus hudsonius*), Swainson's hawk (*Buteo swainsoni*), tricolored blackbird (*Agelaius tricolor*), western snowy plover (*Charadrius alexandrinus nivosus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), and white-tailed kite (*Elanus leucurus*). Suitable habitat for ground-nesting burrowing owl species is not present on the project site.

There are a variety of raptors and/or birds protected by the Migratory Bird Treaty Act (MBTA) that could utilize this habitat for nesting. Because the site does not contain open fields or grassland type habitats, the project would not eliminate foraging habitat on the project site. However, as discussed below, development of the project would require the removal of some on-site trees.

The proposed project would retain some of the on-site trees, which could be used for future nesting habitat, although the presence of the residents would make it a less desirable location for nesting in the retained trees by many species. Construction activities that occur during the nesting season (generally March 1-August 31) could disturb nesting sites if they were present during construction. It is also noted that additional trees would be planted in conjunction with development of the residential structure.

The project site is designated for urban development by the City's General Plan, and potential impacts associated with the loss of nesting habitat located on the project site were previously analyzed in the City's General Plan EIR. Nevertheless, due to the proposed tree removal, mitigation is required to avoid impacts related to nesting birds. Mitigation Measures Bio-1 is consistent with Avoidance and Mitigation Measure 16 (AMM16) of the Yolo Natural Heritage Program. Mitigation Measure Bio-2 is consistent with the standard industry practices to avoid and/or minimize potential impacts to protected birds. Implementation of the following mitigation measures would reduce this potential impact to a ***less than significant*** level.

> ***Mitigation Measure Bio-1:*** *The project proponent shall implement Avoidance and Mitigation Measure 16 (AMM16) of the Yolo Natural Heritage Program, as follows:*
>
> - *The project proponent will retain a qualified biologist to conduct planning-level surveys and identify any nesting habitat present within 1,320 feet of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.*
> - *If a construction project cannot avoid potential nest trees (as determined by the qualified biologist) by 1,320 feet, the project proponent will retain a qualified biologist to conduct preconstruction surveys for active nests consistent, with guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000), between March 15 and August 30, within 15 days prior to the beginning of the construction activity. The results of the survey will be submitted to the Conservancy and CDFW. If active nests are found during preconstruction surveys, a 1,320-foot initial temporary nest disturbance buffer shall be established. If project related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then the qualified biologist will monitor the nest and will, along with the project proponent, consult with CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest disturbance buffer if Swainson's hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foot buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior. Up to 20 Swainson's hawk nest trees (documented nesting within the last 5 years) may be removed during the permit term, but they must be removed when not occupied by Swainson's hawks.*
> - *For covered activities that involve pruning or removal of a potential Swainson's hawk or white-tailed kite nest tree, the project proponent will conduct preconstruction surveys that are consistent with the guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000). If active nests are found during preconstruction surveys, no tree pruning or removal of the nest tree will occur during the period between March 1 and August 30*

within 1,320 feet of an active nest, unless a qualified biologist determines that the young have fledged and the nest is no longer active.

Mitigation Measure Bio-2: *If any project construction activities are to occur during the nesting season for birds protected under the California Fish and Game Code and/or Migratory Bird Treaty Act (approximately March 1-August 31), the project applicant shall retain a qualified biologist to perform preconstruction surveys for protected birds, including nesting raptors, on the project site and in the immediate vicinity. At least two surveys shall be conducted no more than 15 days prior to the initiation of construction activities, including vegetation clearing. In the event that protected birds, including nesting raptors, are found on the project site, offsite improvement corridors, or the immediate vicinity, the project applicant shall:*

- *Locate and map the location of the nest site. Within 2 working days of the surveys prepare a report and submit to the City and CDFW;*
- *A no-disturbance buffer of 250 feet shall be established;*
- *On-going weekly surveys shall be conducted to ensure that the no disturbance buffer is maintained. Construction can resume when a qualified biologist has confirmed that the birds have fledged.*
- *In the event of destruction of a nest with eggs, or if a juvenile or adult raptor should become stranded from the nest, injured or killed, the qualified biologist shall immediately notify the CDFW. The qualified biologist shall coordinate with the CDFW to have the injured raptor either transferred to a raptor recovery center or, in the case of mortality, transfer it to the CDFW within 48 hours of notification. If directed/authorized by the CDFW during the notification, the qualified biologist may transfer the injured raptors to a raptor recovery center.*

Response b): Riparian habitat is found in the interface between land and a river or stream. This habitat is significant in ecology, environmental management, and civil engineering because of its role in soil conservation, its habitat biodiversity, and the influence it has on fauna and aquatic ecosystems, including grassland, woodland, wetland or even non-vegetative.

Sensitive natural communities are those that are considered rare in the region, support special-status plant or wildlife species, or receive regulatory protection (i.e., §404 and 401 of the Clean Water Act, the CDFG §1600 et seq. of the California Fish and Game Code, and/or the Porter-Cologne Act). In addition, the California Natural Diversity Data Base (CNDDB) has designated a number of communities as rare; these communities are given the highest inventory priority (Holland 1986, CDFG 2003e).

The CNDDB record search revealed documented occurrences of one sensitive habitat, Valley Oak Woodland, within the 9-quad region for the project site. This sensitive habitat does not occur within the project site. The project site does not support any riparian habitat or sensitive natural communities. As such, implementation of the proposed project would result in a ***less than significant*** impact.

Response c): The proposed project does not include any construction activities that are within or immediately adjacent to wetlands, creeks, drainages, or other water bodies. These resources are not present on the project site, or in the immediate vicinity of the project site. As such, implementation of the proposed project would have ***no impact*** relative to this issue. This environmental issue will not be addressed further in the EIR.

Response d): The project site is currently developed and surrounded by existing urban development. The site does not serve as a wildlife corridor, or nursery site. The proposed project would not 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. Implementation of the proposed project would result in a ***less than significant*** impact relative to this topic.

Response e): The potential local policy or ordinance protecting biological resources includes the City of Davis Tree Preservation Ordinance. The City of Davis regulates tree planting and removal within the community in Chapter 37, Tree Planting, Preservation, and Protection, of the Municipal Code. The City's Tree Ordinance defines five categories of protected trees:

- Landmark Trees: Any tree which has been determined by resolution of the City Council to be of high value because of its species, size, age, form, historical significance, or some other professional criterion. The Landmark Tree List, available from the Public Works Department, lists and identifies these trees.
- Trees of Significance: Any tree which measures 5 inches or more in Diameter at Breast Height (4'-6" above ground height).
- Street Trees: Any tree planted and/or maintained by the City, or recorded as a street tree, adjacent to a street or within a city easement or right-of-way, on private property, within the street tree easement. The Public Works Department maintains a master list of street trees.
- City Trees: Any tree, other than a street tree, planted or maintained by the City within a City easement, right-of-way, park, greenbelt, public place or property owned or leased by the City.
- Private Tree: Any tree privately owned and growing on private property, which may include a tree designated as a landmark tree and/or tree of significance, as defined within the definitions section of the Tree Ordinance, Chapter 37.

The site currently contains approximately 28 trees, including those located along the frontages of First Street and D Street. Eleven of these trees (all locust trees) are located along First and D Streets. Ten of the eleven trees along First and D Streets would not be removed with redevelopment of the site. Although one tree along the street frontages would be removed, the proposed landscape plan indicates that a Texas red oak tree would be planted as a replacement in the same location. The other 17 trees are located internal to the site. The trees surrounding the TX Main House are not anticipated for removal; however, the trees surrounding the Jackson House and Bryson House, which are proposed for demolition, would be removed. The project would landscape the site in conjunction with construction of the proposed three-story building.

The diameters of all of the trees are unknown at this time. However, all of the trees fall into either the Trees of Significance, Street Trees, City Trees, or Private Trees. No Landmark Trees are located on-site. Removal of some of the trees on the project site is subject to the City's Tree Ordinance. The project would be required to retain a qualified arborist to perform a survey of any trees within the footprint of the proposed disturbance area. The survey would detail the number, species, size, and relative health and structure of all trees in the disturbance area. Once the survey is complete, which details which trees are subject to regulation under the City's Tree Ordinance, the Tree protection Plan would be prepared.

Compliance with the City's Tree Ordinance would be addressed by a standard City condition of approval which requires preparation of a Tree Protection Plan for trees being preserved and approval of Tree Modification Permit for trees being removed with standard measures for tree replacement or payment for the appraised value of the trees. The Tree Protection Plan would include measures to ensure that all trees to be preserved would be protected during construction

of the project. This would ensure that the project would have a ***less than significant*** impact relative to local policies and ordinances protecting biological resources.

Response f): The Yolo Natural Heritage Program is a county-wide Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP) for the 653,820-acre planning area. The Yolo Natural Heritage Program is being developed to conserve the natural open space and agricultural landscapes that provide habitat for many special status and at-risk species found within the habitats and natural communities in Yolo County. The Yolo Natural Heritage Program will establish measures that will be undertaken to conserve important biological resources, obtain permits for urban growth and public infrastructure projects, and continue Yolo County's rich agricultural heritage.

The HCP/NCCP was adopted by the Davis City Council in May 2018. Per the HCP/NCCP, the land cover type on the project site is "Developed". Developed areas are dominated by pavement and building structures. Vegetation in developed areas generally consists of vegetated corridors (e.g., vegetation maintained adjacent to highways) and patches of mostly ornamental vegetation, such as tree groves, street strips, shade trees, lawns, and shrubs that are typically supported by irrigation. Urban lands cover 45,700 acres, or seven percent, of the Yolo HCP/NCCP Area. This area includes urban vegetation and all areas with structures, graded lots, road and highway medians, anthropogenic drainage canal vegetation, rail rights-of-way, and sewage treatment ponds that do not provide habitat. Based on the Developed HCP/NCCP land cover type on the project site, the site does not contain high-quality habitat for covered species and the proposed project would not be subject to payment of habitat mitigation fees. The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

V. CULTURAL RESOURCES

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

Responses to Checklist Questions

Response a)-c): A Historical Resources Analysis Study (October 2016) and a Historical Effects Analysis Study (June 2018) were prepared by Historical Resources Associate. The analysis concluded that the Bryson House and Jackson House are significant historical resources because both houses have been determined to be eligible for the California Register of Historic Resources.

Based on known historical and archaeological resources in the region, and the potential for undocumented underground cultural resources in the region, it has been determined that the potential impacts on cultural resources caused by the proposed project will require a detailed analysis in the EIR. As such, the lead agency will examine each of the three environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact on cultural resources. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will include an overview of the prehistory and history of the area, the potential for surface and subsurface cultural resources to be found in the area, the types of cultural resources that may be expected to be found, a review of existing regulations and policies that protect cultural resources, a review of the Historical Resources Analysis Study completed for the project site, an impact analysis, and mitigation that should be implemented in order to reduce potential impacts to cultural resources.

VI. ENERGY

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

Responses to Checklist Questions

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

The proposed project includes demolition of two residential structures and construction of one three-story residential structure. The amount of energy used at the project site would directly correlate to the size of the proposed residence, the energy consumption of associated unit appliances, and outdoor lighting. Other major sources of proposed project energy consumption include fuel used by vehicle trips generated during project construction and operation, and fuel used by off-road construction vehicles during construction.

The demolition of the two residences and subsequent development of the proposed three-story fraternity residence would result in three fewer beds (i.e., three fewer residents) compared to the existing condition. During construction, the TX Main House would continue to serve the fraternity's housing and study needs. Once the proposed three-story fraternity building is completed, the fraternity would consolidate all of its activities onto the new western parcel. Once the fraternity is consolidated into the western parcel and associated three-story building, the TX Main House, along with its expanded lot, would be vacated and placed for sale or lease to a third party on the open market. As such, the TX Main House would not be retained for TX Fraternity uses. The number of operational trips would be comparable to the existing baseline. As discussed in Section XVI, Transportation, the existing fraternity operations generate approximately 77.49 daily trips. The proposed fraternity operations (i.e., the three-story building with 35 total beds) would generate approximately 71.53 daily trips, and the single-family home which would be vacated and placed for sale or lease to a third party on the open market would generate approximately 9.52 daily trips. As such, the proposed project would result in an increase of 3.56 daily trips compared to the existing baseline condition. Similarly, the amount of general energy use associated with operation of the proposed building would also be comparable to the existing baseline.

Additionally, the development would incorporate energy efficiency measures. Sustainable design features would include high levels of envelope insulation, high efficiency HVAC, LED Lighting, solar shading devices, electric vehicle charging outlets, and a low water use landscaping and irrigation system. It is anticipated that the project would target a "LEED Silver" equivalency. Therefore, due to the above design features, and the age of the two buildings which would be demolished and replaced, the energy required to operate proposed building, including energy demands for heating and cooling, appliances, and lighting, may even be less than the existing condition.

The proposed project would be in compliance with all applicable Federal, State, and local regulations regulating energy usage. For example, PG&E is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the Statewide Renewable Portfolio Standard (RPS) to increase the proportion of renewable energy (e.g. solar and wind) within its energy portfolio. PG&E is expected to achieve at least a 33 percent mix of renewable energy resources by 2020, and 50 percent by 2030. Additionally, energy-saving regulations, including the latest State Title 24 building energy efficiency standards ("part 6"), would be applicable to the proposed project. Other Statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g. the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time. It is also noted that the City of Davis recently established its own utility company, Valley Clean Energy, which utilizes 100 percent renewable energy sources. The project may be required subscribe to the City's utility company for energy use.

As a result, the proposed project would not result in any significant adverse impacts related to project energy requirements, energy use inefficiencies, and/or the energy intensiveness of materials by amount and fuel type for each stage of the project including construction, operations, maintenance, and/or removal. PG&E, the current electricity and natural gas provider to the site, maintains sufficient capacity to serve the proposed project. The proposed project would comply with all existing energy standards, including those established by the City of Davis, and would not result in significant adverse impacts on energy resources. Furthermore, existing connections exist between the project site and nearby pedestrian and bicycle pathways, and public transit access exists nearby, reducing the need for local motor vehicle travel. For these reasons, the proposed project would not be expected cause an inefficient, wasteful, or unnecessary use of energy resources. This is a ***less than significant*** impact.

VII. GEOLOGY AND SOILS

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

Responses to Checklist Questions

Responses a.i), a.ii): The California Geologic Survey (CGS) evaluates faults and determines if a fault should be zoned as active, potentially active, or inactive. All active faults are incorporated into a Special Studies Zone, also referred to as an Alquist-Priolo Special Study Zone. The project site is not within an Alquist-Priolo Special Study Zone. In fact, there are no known faults (active, potentially active, or inactive) that traverse through the City of Davis.

The San Andreas fault system located to the west and the Eastern Sierra fault system located to the east are the closest significant fault systems. Numerous quakes along these fault systems have

been felt in Davis. Major quakes occurred in 1833, 1868, 1892, 1902, 1906, and most recently in 2014, but Davis suffered no significant damage.

The Office of Planning and Research has placed the Davis area in Seismic Activity Intensity Zone II, which indicates that the maximum intensity of an earthquake would be VII or VIII on the Modified Mercalli Intensity Scale. An earthquake of such magnitude would result in slight damage in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures." The Uniform Building Code places all of California in the zone of greatest earthquake severity because recent studies indicate high potential for severe ground shaking.

There will always be a potential for groundshaking caused by seismic activity anywhere in California, including the project site. In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. Design in accordance with these standards would reduce any potential impact to a ***less than significant*** level.

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

Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Oftentimes, lateral spreading is directly associated with areas of liquefaction. Areas in the region that are susceptible to this hazard are located along creeks or open water bodies, or within the foothills to the west. There are no creeks or open bodies of water within an appropriate distance from the project site for lateral spreading to occur on the project site. For this reason, the probability of lateral spreading occurring on the project site is low.

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

Soil expansion is dependent on many factors. The more clayey, critically expansive surface soil and fill materials will be subjected to volume changes during seasonal fluctuations in moisture content. Sycamore silt loam, drained, zero percent slopes, is the only soil located on the project site. The Sycamore series consists of soils formed under poorly drained conditions, although the project site soils are drained. The soils formed in mixed sedimentary alluvium. The site surface soils have low expansion potential.

Monitoring of subsidence in Yolo has been occurring since 1999 on a regional level. The monitoring efforts show that the greatest subsidence occurs in the corridor that runs north from Davis, through Woodland, north to Zamora and through to the northeast corner of the county. The subsidence does not appear to be strictly uniform, a characteristic of subsidence, but rather a result of several factors. Subsidence is likely a result of the groundwater pumping, water usage, and other related issues, but additional regional studies are needed over an extended period of time to better understand the subsidence. Subsidence is present throughout the City of Davis including the project site, albeit at a low level.

If near-surface soils vary in composition both vertically and laterally, strong earthquake shaking can cause non-uniform compaction of the soil strata, resulting in movement of the near-surface soils. Since the compaction and placement history of the fill is unknown, removal and re-compaction would likely be required during grading.

Overall, the project site has a low potential for liquefaction, lateral spreading, subsidence, and landslides. However, given that fill was encountered at the site, and the lack of information on the compaction and placement history of the fill, Mitigation Measure Geo-1 below would be required. Overall, it was determined that the project site was suitable for development, and with implementation of the following mitigation measure, this potential impact would be ***less than significant***.

> ***Mitigation Measure Geo-1:*** *Prior to the development of the project site, further subsurface plan-level geotechnical investigation shall be performed to identify onsite soil conditions and identify any site-specific engineering measures to be implemented during the construction of building foundations, surface improvements, and subsurface improvements. The results of the subsurface geotechnical investigation shall be reflected on the Improvements Plans, subject to review and approval by the City's Building Division. During site grading, the project applicant shall remove and re-compact the existing on-site fill, in accordance with the recommendations provided in the subsurface plan-level geotechnical investigation.*

Response a.iv): There are several categories of landslides including: rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e. cut and fill).

The project site is relatively flat and there are no major slopes in the vicinity of the project site. Slope instability at the project site, as a result of seismic events, has very low potential because of the lack of relief across the area and its distance from active and potentially active faults. The project site is not located in the foothills, mountain terrain, or along a river bank. As such, the project site is exposed to little or no risk associated with landslides. The proposed project would be required to comply with all applicable development requirements included in the Uniform Building Code. This is a ***less than significant*** impact and no mitigation is required.

Response b): The project site is currently developed and is not at significant risk of erosion under the existing conditions. Construction activities including grading could temporarily increase soil erosion rates during and shortly after project construction. Construction-related erosion could result in the loss of a substantial amount of nonrenewable topsoil and could adversely affect water quality in nearby surface waters. The RWQCB requires a project specific Storm Water Pollution Prevention Plan (SWPPP) to be prepared for each project that disturbs an area one acre or larger. The SWPPP will include project specific best management measures that are designed to control drainage and erosion. The SWPPP and the project specific drainage plan would reduce the potential for erosion. Implementation of the following mitigation measure

would ensure that the proposed project would result in a ***less-than-significant*** impact relative to this topic.

> ***Mitigation Measure Geo-2:*** *The project applicant shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB in accordance with the NPDES General Construction Permit requirements. The SWPPP shall be designed to control pollutant discharges utilizing Best Management Practices (BMPs) and technology to reduce erosion and sediments. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater runoff from the project site. Measures shall include temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) that will be employed to control erosion from disturbed areas. Final selection of BMPs will be subject to approval by the City of Davis and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*

Response e): The proposed project would not require the use of septic tanks or alternative waste water disposal systems for the disposal of waste water. The project has been designed to connect to the existing City sewer system, and septic systems will not be used. Implementation of the proposed project would result in ***no impact*** relative to this topic.

Response f): Known paleontological resources or sites are not located on the project site. Additionally, unique geologic features are not located on the site. The site is currently developed and surrounded by existing urban development, and the proposed project is considered an infill development. As such, impacts to paleontological resources or unique geologic features would not occur. This is a ***less than significant*** impact.

It is noted that a Focused EIR will be completed for the project, which will analyze potential impacts to cultural resources (including paleontological resources) and tribal cultural resources that may result from project implementation. The EIR will include an overview of the prehistory and history of the area, the potential for surface and subsurface cultural resources to be found in the area, the types of cultural resources that may be expected to be found, a review of existing regulations and policies that protect cultural resources, a review of the Historical Resources Analysis Study completed for the project site, an impact analysis, and mitigation that should be implemented in order to reduce potential impacts to cultural resources. In addition, the CEQA process will include a request to the Native American Heritage Commission for a list of local Native American groups that should be contacted relative to this project. The CEQA process will also include consultation with any Native American groups that have requested consultation with the City of Davis.

VIII. GREENHOUSE GAS EMISSIONS

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

EXISTING SETTING

Background

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

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

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

The emissions from a single project will not cause global climate change, however, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change. Therefore, the analysis of GHGs and climate change presented in this section is presented in terms of the proposed project's contribution to cumulative impacts and potential to result in cumulatively considerable impacts related to GHGs and climate change.

Cumulative impacts are the collective impacts of one or more past, present, and future projects that, when combined, result in adverse changes to the environment. In determining the significance of a proposed project's contribution to anticipated adverse future conditions, a lead agency should generally undertake a two-step analysis. The first question is whether the *combined* effects from *both* the proposed project *and* other projects would be cumulatively significant. If the agency answers this inquiry in the affirmative, the second question is whether "the proposed project's *incremental* effects are cumulatively considerable" and thus significant in and of themselves. The cumulative project list for this issue (climate change) comprises anthropogenic (i.e., human-made) GHG emissions sources across the globe and no project alone

would reasonably be expected to contribute to a noticeable incremental change to the global climate. However, legislation and executive orders on the subject of climate change in California have established a statewide context and process for developing an enforceable statewide cap on GHG emissions. Given the nature of environmental consequences from GHGs and global climate change, CEQA requires that lead agencies consider evaluating the cumulative impacts of GHGs. Small contributions to this cumulative impact (from which significant effects are occurring and are expected to worsen over time) may be potentially considerable and, therefore, significant.

RESPONSES TO CHECKLIST QUESTIONS

Responses a), b):

Construction GHG Analysis

Construction-related activities that would generate GHGs include construction worker commute trips, haul trucks carrying supplies and materials to and from the project site, and off-road construction equipment (e.g., dozers, loaders, excavators). Construction of the project is expected to occur during the years 2019 and 2020. Annual construction emissions are summarized in Table 5, in units of metric tons per year (MT/year).

Table 5: Project Construction-Related GHG Emissions (MT/Year) (Unmitigated Scenario)

Year	*Bio- CO_2*	*NBio-CO_2*	*Total CO_2*	*CH_4*	*N_2O*	*CO_2e*
2019	0.000	153.0189	153.0189	0.0353	0.0000	153.9016
2020	0.000	30.4055	30.4055	7.5800-e-003	0.0000	30.5949
Maximum	**0.000**	**153.0189**	**153.0189**	**0.0353**	**0.0000**	**153.9016**

SOURCE: CALEEMOD (V.2016.3.2)

As shown in Table 5, annual GHG emissions from project construction would range from a low of approximately 30.6 MT/year of carbon dioxide equivalents (CO_2e) to a high of 153.9 MT CO_2e.

YSAQMD recommends using 1,100 MT CO_2e per year to analyze construction-related GHG emissions. Peak-year construction-generated GHG emissions would not exceed YSAQMD's recommended GHG emissions threshold of 1,100 MT CO_2e for construction of the proposed project, as shown in Table 5. Therefore, this is a ***less than significant*** impact relative to this topic.

Operational GHG Analysis

The proposed project would be a direct and indirect source of GHG emissions, in that it would generate and attract vehicle trips in the region (mobile source GHG emissions), and generate area source GHG emissions. The mobile source GHG emissions would be entirely from vehicles, while the area source GHG emissions would be primarily from landscape fuel combustion, consumer products, and architectural coatings. Operational GHG emissions would also be generated from solid waste disposal, water usage, and electricity usage.

The proposed project would result in the construction of replacement residential housing on a site that currently contains residential uses. The proposed three-story fraternity building would provide 35 total beds and nine total bathrooms. This would result in three fewer beds and four additional bathrooms compared to the existing houses.

Table 6 shows the operational GHG emissions that would result from the existing three residences. Table 7 shows the operational GHG emissions that would result from the proposed project.

Table 6: Existing Residences Operational Emissions (Unmitigated Scenario)

Emissions	Bio-CO_2	NBio-CO_2	Total CO_2	CH_4	N_2O	CO_2e
Area	19.9607	5.7894	25.7501	0.0190	1.5100e-003	26.6772
Energy	0.0000	21.6062	21.6062	8.2000e-004	2.6000e-004	21.7030
Mobile	0.0000	115.2476	115.2476	0.0183	0.0000	115.7047
Waste	1.2139	0.0000	1.2139	0.0717	0.0000	3.0074
Water	0.2687	1.8770	2.1457	0.0277	6.7000e-004	3.0372
Total	**21.4433**	**144.5202**	**165.9635**	**0.1376**	**2.4400e-003**	**170.1296**

SOURCE: CALEEMOD (V.2016.3.2)

Table 7: Proposed Project Operational Emissions (Unmitigated Scenario)

Emissions	Bio-CO_2	NBio-CO_2	Total CO_2	CH_4	N_2O	CO_2e
Area	18.6749	5.3562	24.0311	0.0180	1.4100e-003	24.8999
Energy	0.0000	14.6643	14.6643	8.9oooe-004	2.9000e-004	14.7721
Mobile	0.0000	109.4318	109.4318	5.9600e-003	0.0000	109.5809
Waste	1.3580	0.0000	1.3580	0.0803	0.0000	3.3644
Water	0.2687	0.8487	1.1174	0.0277	6.7000e-004	2.0090
Total	**20.3016**	**130.3010**	**150.6026**	**0.1328**	**2.3700e-003**	**154.6263**

SOURCE: CALEEMOD (V.2016.3.2)

As shown, the operational GHG emissions resulting from the existing residences (Table 6) are higher than the proposed project (Table 7). This is likely because the existing residences were constructed in approximately 1912 and, as such, are less energy efficient than the proposed three-story building.

It is noted that the earliest operational year available in CalEEMod, year 2000, was used to calculate the operational emissions of the existing residences. However, the three existing residences were constructed in approximately 1912. California' building requirements have become stricter over time, resulting in more energy efficient buildings. As such, the operational GHG emissions resulting from operation of the existing residences are likely much higher than what is shown in Table 6.

The project is consistent with the existing fraternity operations and would not increase the capacity of the project site. Additionally, the two residential structures which would be demolished and replaced were constructed in approximately 1912. The replacement house would be significantly more energy efficient compared to the existing older buildings. For example, the proposed residential units would be required to install Energy Star-compliant refrigerators and dishwashers. These energy efficient appliances would reduce the operational GHG emissions associated with water usage. Further, the development would incorporate sustainable design features, including high levels of envelope insulation, high efficiency HVAC, LED Lighting, solar shading devices, electric vehicle charging outlets, and a low water use landscaping and irrigation system. It is anticipated that the project would target a "LEED Silver" equivalency. Therefore, due to the above design features, and the age of the two buildings which would be demolished and replaced, the energy required to operate proposed building, including energy demands for heating and cooling, appliances, and lighting, may even be less than the existing condition.

It is also noted that the applicant would be required to comply with Chapter 8.01 of the City of Davis' Municipal Code, which requires that buildings are to comply with the Tier 2 standards of the California Green Building Standards (CALGreen) Code.

Overall, the operational GHG emissions are not anticipated to increase beyond the existing condition. This is a ***less than significant*** impact relative to this topic.

Conclusion

As demonstrated above, the construction-generated GHG emissions would not exceed YSAQMD's recommended GHG emissions threshold of 1,100 MT CO_2e for construction of the proposed project, as shown in Table 4. Additionally, the operational GHG emissions would be comparable, or less, than the existing baseline condition. Therefore, GHG impacts would be considered ***less than significant***.

IX. HAZARDS AND HAZARDOUS MATERIALS

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

Responses to Checklist Questions

Responses a), b): The proposed project would place residential uses in an area of the City that currently contains residential uses. The proposed residential land uses do not routinely transport, use, or dispose of hazardous materials, or present a reasonably foreseeable release of hazardous materials, with the exception of common hazardous materials such as household cleaners, paint, etc. The operational phase of the proposed project does not pose a significant hazard to the public or the environment.

Onsite reconnaissance and historical records indicate that there are no known underground storage tanks or pipelines located on the project site that contain hazardous materials. Therefore, the disturbance of such items during construction activities is unlikely. Construction equipment and materials would likely require the use of petroleum-based products (oil, gasoline, diesel fuel), and a variety of common chemicals including paints, cleaners, and solvents. Transportation, storage, use, and disposal of hazardous materials during construction activities would be required to comply with applicable federal, state, and local statutes and regulations. Compliance

would ensure that human health and the environment are not exposed to hazardous materials. Therefore, the proposed project would have a ***less than significant*** impact relative to this issue.

Response c): The project site is outside a ¼ mile radius of the nearest school. The closest school is UC Davis, located approximately 0.29 miles to the west of the project site. The operations of a residential fraternity would not emit hazardous emissions or result in the storage or handling of hazardous or acutely hazardous materials, substances or waste above the level of existing conditions. Implementation of the proposed project would result in a ***less than significant*** impact relative to this topic.

Response d): According the California Department of Toxic Substances Control (DTSC) there are no Federal Superfund Sites, State Response Sites, or Voluntary Cleanup Sites on, or in the near vicinity of the project site. The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5. The nearest investigation sites include:

- Davis Honda Yamaha (site #T0611300180): This site is a Leaking Underground Storage (LUST) Site which has a current status of Completed – Case Closed (as of September 23, 1993). The potential contaminant of concern was gasoline. The potential contamination concern was for soil.

- Chevron #9-5631 (site #T0611300030): This site is a LUST Site which has a current status of Completed – Case Closed (as of as of March 3, 1997). The potential contaminant of concern was gasoline. The potential contamination concern was for the groundwater aquifer, which is used for drinking water.

Implementation of the proposed project would result in a ***less than significant*** impact relative to this environmental topic.

Response e): The project site is not located near an existing airport and is not within an existing airport land use plan. The nearest airport, UC Davis Airport, is a private airfield located approximately 2.5 miles west of the project site. The UC Davis Airport is operated as a general aviation airport. The Airport offers the sale of aviation fuel (100 LL) and rents hangers, open shades and tie downs for aircraft storage. Additionally, there are two fixed base operators located at the Airport that provide aircraft maintenance (Davis Air Repair), flight instruction, and aircraft rentals (Cal Aggie Flying Farmers). The project site is not located within the approach or take-off zones of the UC Davis Airport, nor is it located within the overflight zones of the airport. There are no private airstrips within a 2-mile vicinity of the project site. Therefore, ***no impact*** would occur.

Response f): Implementation of the proposed project would not result in any substantial modifications to the existing roadway system and would not interfere with potential evacuation or response routes used by emergency response teams. The proposed project would also not interfere with any emergency response plan or emergency evaluation plan. As shown on Figure 7, the project site would include one point along D Street. This is a ***less than significant*** impact.

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

such as trees have a lower surface area to mass ratio and require more heat to reach the ignition point.

The site is not located within an area where wildland fires occur. The site is surrounded by developed land uses. The surrounding land uses consists of a mix of retail, single family, and apartment developments along First Street, D Street, and E Street. This is a ***less than significant*** impact, and will not be further addressed in the EIR.

X. HYDROLOGY AND WATER QUALITY

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

Responses to Checklist Questions

Responses a), e): Implementation of proposed project would not violate any water quality or waste discharge requirements. Construction activities including grading could temporarily increase soil erosion rates during and shortly after project construction. Construction-related erosion could result in the loss of soil and could adversely affect water quality in nearby surface waters. The RWQCB requires a project specific SWPPP to be prepared for each project that disturbs an area one acre or larger. The SWPPP is required to include project specific best management measures that are designed to control drainage and erosion. Mitigation Measure Geo-2 would require the preparation of a SWPPP to ensure that the proposed project prepares and implements a SWPPP throughout the construction phase of the project. The SWPPP (Mitigation Measure Geo-2) and the project specific drainage plan would reduce the potential for the proposed project to violate water quality standards during construction. Implementation of the proposed project would result in a ***less-than-significant*** impact relative to this topic.

Response b): The proposed project would connect to the City of Davis water system. There are three primary water rights and contracts (collectively, "water supplies") that are used within the City's existing service area and Sphere of Influence (SOI). All three of these water supplies are used to meet the water demands for the City's residents. In several areas within the City, the water supplies can be interchanged and commingled for delivery to end users. The water supplies are:

- Woodland-Davis Clean Water Agency (WDCWA) State Water Resources Control Board (SWRCB) Appropriative Water Right Permit 20281;
- WDCWA's Central Valley Project (CVP) Contract No. 14-06-200-7422X-R-1; and
- City of Davis' groundwater rights.

The proposed project would not 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).

The new impervious surfaces, such as pavement, concrete, and structures that would be built on the project site, could reduce infiltration capacity. However, the project site is currently developed with pervious and impervious surfaces. Once the project site is redeveloped, the amount of impervious surfaces would likely be similar to the existing condition. For example, the front and back yard spaces would remain largely pervious, which would allow infiltration to underlying groundwater. The project would also use low water use irrigation systems and landscaped bio-swales along the First and D Street landscaping edges. In addition, the project is not anticipated to significantly affect groundwater quality because sufficient stormwater infrastructure would be constructed as part of project to detain and filter stormwater runoff and prevent long-term water quality degradation. Therefore, project construction and operation would not substantially deplete or interfere with groundwater supply or quality. This impact would be ***less than significant***.

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

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

There are no rivers, streams, or water courses located on or immediately adjacent to the project site. As such, there is no potential for the project to alter a water course, which could lead to on

or offsite flooding. Drainage improvements associated with the project site would be located on the project site, and the project would not alter or adversely impact offsite drainage facilities.

The proposed project would not likely increase the amount of impervious surfaces on the project site compared to the existing condition. The proposed project would require the installation of storm drainage infrastructure to ensure that storm waters properly drain from the project site. Stormwater would be routed to proposed landscaped bio-swales along the First and D Streets landscaping edges.

The proposed project will be required to comply with the Phase II Small MS4 General Permit (see Article 30.02 and 30.04 of the City of Davis Municipal Code). The proposed project must meet the guidelines and requirements set forth in the "Phase II Small MS4 General Permit, 2013-0001-DWQ," dated February 5, 2013, adopted by the City of Davis. Permittees must implement a post-construction stormwater management program, as specified in Section E.12 of the Phase II Small MS4 General Permit

In order to meet the guidelines and requirements set forth in the "Phase II Small MS4 General Permit, 2013-0001-DWQ," permanent storm water control measures would be incorporated into the project in order to mitigate the impacts of pollutants in storm water runoff from the proposed project. The proposed project would incorporate site design measures, source control measures, and treatment control measures.

The construction of storm water drainage facilities would not substantially alter the existing drainage pattern of the area, or alter the course of a stream or river. As required by Mitigation Measures Hydro-1, the applicant would be required to submit a plan identifying the stormwater control measures that would be implemented. Additionally, Mitigation Measures Hydro-2 requires documentation that the stormwater runoff from the site is treated per the standards in the California Stormwater Best Management Practice New Development and Redevelopment Handbook and Section E.12 of the Phase II Small MS4 General Permit. Implementation of the proposed project with the following mitigation measures would have a ***less-than-significant*** impact relative to this environmental topic.

> ***Mitigation Measure Hydro-1:*** *Prior to issuance of building or grading permits, the applicant shall submit a plan identifying permanent stormwater control measures to be implemented by the project to the City. The plan shall be subject to review and approval by the Public Works Department.*
>
> ***Mitigation Measure Hydro-2:*** *Prior to any site disturbance, the project proponent shall document to the satisfaction of the City of Davis that stormwater runoff from the project site is treated per the standards in the California Stormwater Best Management Practice New Development and Redevelopment Handbook and Section E.12 of the Phase II Small MS4 General Permit. Drainage from all paved surfaces, including parking lots, driveways, and roofs, shall be routed either through swales, buffer strips, or sand filters or treated with a filtering system prior to discharge to the storm drain system. Landscaping shall be designed to provide water quality treatment, along with the use of a Stormwater Management filter to permanently sequester hydrocarbons, if necessary. Roofs shall be designed with down spouting into landscaped areas. Driveways should be curbed into landscaping so runoff drains first into the landscaping. The aforementioned requirements shall be noted on the Preliminary and Final Planned Developments for the project.*

Response d): The risks of flooding hazards in the City of Davis and immediate surroundings are primarily related to large, infrequent storm events. These risks of flooding are greatest during the rainy season between November and March. Flooding events can result in damage to structures, injury or loss of human and animal life, exposure to waterborne diseases, and damage

to infrastructure. In addition, standing floodwater can destroy agricultural crops, undermine infrastructure and structural foundations, and contaminate groundwater.

The 100-Year floodplain denotes an area that has a one percent chance of being inundated during any particular 12-month period. Floodplain zones (Special Flood Hazard Areas [SFHA]) are determined by the Federal Emergency Management Agency (FEMA) and used to create Flood Insurance Rate Maps (FIRMs). These tools assist communities in mitigating flood hazards through land use planning. FEMA also outlines specific regulations, intended to be adopted by the local jurisdictions, for any construction, whether residential, commercial, or industrial within 100-year floodplains.

Lands within the FEMA-designated 100-year floodplain (SFHA) are subject to mandatory flood insurance as required by FEMA. The insurance rating is based on the difference between the base flood elevation (BFE), the average depth of the flooding above the ground surface for a specific area, and the elevation of the lowest floor. Because the City of Davis participates in the National Flood Insurance Program, it must require development permits to ensure that construction materials and methods will mitigate future flood damage, and to prevent encroachment of development within floodways. New construction and substantial improvements of residential structures are also required to "have the lowest habitable floor (including the basement if it is, or easily could be 'habitable') elevated to or above the base flood level."

The proposed project is shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) number 06113C0611G dated June 18, 2010. The project site is located within FEMA Zone X (un-shaded), indicating that the site is located outside of the 100-year flood hazard zone.

Tsunamis are defined as sea waves created by undersea fault movement. A tsunami poses little danger away from shorelines; however, when a tsunami reaches the shoreline, a high swell of water breaks and washes inland with great force. Waves may reach 50 feet in height on unprotected coasts. Historic records of the Bay Area used by one study indicate that nineteen tsunamis were recorded in San Francisco Bay during the period of 1868-1968. Since Davis is many miles inland from the San Francisco Bay Area and associated water bodies, the project site is not exposed to flooding risks from tsunamis and adverse impacts would not result.

A seiche is a standing wave in an enclosed or partially enclosed body of water. Seiches and seiche-related phenomena have been observed on lakes, reservoirs, swimming pools, bays, harbors and seas. The key requirement for formation of a seiche is that the body of water be at least partially bounded, allowing the formation of the standing wave. There are no large bodies of standing water in the vicinity of the project site. As such, there is no potential for the project to be exposed to seiches.

Overall, this impact is ***less than significant***.

XI. LAND USE AND PLANNING

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

Responses to Checklist Questions

Response a): The project site is located within the Davis city limits and is adjacent to developed land on all sides. The project would result in redevelopment of the site, and the proposed use would not change. Development of the project would not result in any physical barriers, such as a wall, or other division, that would divide an existing community, but would serve as an orderly extension of existing utilities. The project would have ***no impact*** in regards to the physical division of an established community.

Response b): The proposed project may cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect This land use and planning impact will require a detailed analysis in the EIR. As such, the lead agency will examine this environmental issue in the EIR and will decide whether the proposed project has the potential to have a significant impact. At this point a definitive impact conclusion for this environmental topic will not be made; rather, this is considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will include a detailed discussion of the project entitlements as they relate to the existing General Plan, Zoning Code, and other local regulations. The local, regional, state, and federal jurisdictions potentially affected by the project will be identified, as well as their respective plans, policies, laws, and regulations, and potentially sensitive land uses. The proposed project will be evaluated for consistency the City of Davis General Plan, the Zoning Ordinance, and other local planning documents. Planned development and land use trends in the region will be identified based on currently available plans. Reasonably foreseeable future development projects within the region will be noted, and the potential land use impacts associated with the project will be presented.

This section will provide an analysis including the thresholds of significance, a consistency analysis, cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to ensure consistency with the existing and planned land uses.

XII. MINERAL RESOURCES

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

Responses to Checklist Questions

Responses a), b): According to the Davis General Plan, the most important mineral resources in the region are sand and gravel, which are mined on Cache Creek and other channels in Yolo County. There are no known mineral resources located on the project site or in the immediate vicinity. Additionally, there is no land designated or zoned for mineral resources within the City limits. Given that no known mineral resources are located in the vicinity of the proposed project, implementation of the proposed project would not result in the loss of availability of a known mineral resource or of a locally-important mineral resource recovery site. Therefore, there would be ***no impact*** regarding the loss of availability of a known mineral resource that would be of value to the region. This issue will not be addressed further in the EIR.

XIII. NOISE

Would the project result in:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Generation of excessive groundborne vibration or groundborne noise levels?			X	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X

FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound, and twice as loud as a 60-dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment. CNEL is like L_{dn}, but includes a +5-dB penalty for evening noise. Table 8 lists several examples of the noise levels associated with common situations.

Table 8: Typical Noise Levels

Common Outdoor Activities	*Noise Level (dBA)*	*Common Indoor Activities*
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. SEPTEMBER 2013.

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the

less acceptable the new noise will be judged by those hearing it. The following relationships occur regarding increases in A-weighted noise level:

- Except in carefully controlled laboratory experiments, a 1 dBA change cannot be perceived;
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- A change in level of at least 5-dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

Responses to Checklist Questions
Response a):

Construction Noise
Construction activities have the potential to create temporary, or periodic increases in ambient noise levels in the project vicinity above levels existing without the project. During the construction of the project, including roads, water, and sewer lines, and related infrastructure, noise from construction activities would add to the noise environment in the project vicinity. Existing sensitive receptors are located in the nearby residences, some of which are as close as 75 feet from the proposed construction activities. As indicated in Table 9, activities involved in construction would generate maximum noise levels ranging from 76 to 90 dB at 50 feet.

Table 9: Construction Equipment Noise

Type of Equipment	*Maximum Level, dB at 50 feet*
Backhoe	78
Compactor	83
Compressor (air)	78
Concrete Saw	90
Dozer	82
Dump Truck	76
Excavator	81
Generator	81
Jackhammer	89
Pneumatic Tools	85

SOURCE: ROADWAY CONSTRUCTION NOISE MODEL USER'S GUIDE. FEDERAL HIGHWAY ADMINISTRATION. FHWA-HEP-05-054. JANUARY 2006.

Construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours which are the least sensitive hours. Additionally, the majority of construction activities would occur at distances of 300 to 500 feet from the nearest residences.

At these further distances, the maximum noise levels due to construction at the interior of the site would range from 60 to 70 dBA.

Noise would also be generated during the construction phase by increased truck traffic on area roadways. A significant project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from construction sites. This noise increase would be of short duration and would likely occur primarily during daytime hours.

Construction could result in periods of elevated ambient noise levels and the potential for annoyance. However, the City of Davis Noise Ordinance (Section 24.02.040, Special provisions) establishes allowable hours of operation and noise limits for construction activities as follows:

(b) Construction and landscape maintenance equipment. Notwithstanding any other provision of this chapter, between the hours of 7:00 a.m. and 7:00 p.m. on Mondays through Fridays, and between the hours of 8:00 a.m. and 8:00 p.m. on Saturdays and Sundays, construction, alteration, repair or maintenance activities which are authorized by valid city permit or business license, or carried out by employees of contractors of the city shall be allowed if they meet at least one of the following noise limitations:

(1) No individual piece of equipment shall produce a noise level exceeding eighty-three dBA at a distance of twenty-five feet. If the device is housed within a structure on the property, the measurement shall be made outside the structure at a distance as close to twenty feet from the equipment as possible.

(2) The noise level at any point outside of the property plane of the project shall not exceed eighty-six dBA.

(3) The provisions of subdivisions (1) and (2) of this subsection shall not be applicable to impact tools and equipment; provided, that such impact tools and equipment shall have intake and exhaust mufflers recommended by manufacturers thereof and approved by the director of public works as best accomplishing maximum noise attenuation, and that pavement breakers and jackhammers shall also be equipped with acoustically attenuating shields or shrouds recommended by the manufacturers thereof and approved by the director of public works as best accomplishing maximum noise attenuation. In the absence of manufacturer's recommendations, the director of public works may prescribe such means of accomplishing maximum noise attenuation as he/she may determine to be in the public interest.

Construction projects located more than two hundred feet from existing homes may request a special use permit to begin work at six a.m. on weekdays from June 15th until September 1st. No percussion type tools (such as ramsets or jackhammers) can be used before 7:00 a.m. The permit shall be revoked if any noise complaint is received by the police department.

(4) No individual powered blower shall produce a noise level exceeding seventy dBA measured at a distance of fifty feet.

(5) No powered blower shall be operated within one hundred feet radius of another powered blower simultaneously.

(6) On single-family residential property, the seventy dBA at fifty feet restriction shall not apply if operated for less than ten minutes per occurrence.

Because all construction activities will be subject to the requirements of Section 24.02.040 of the City of Davis Municipal Code with respect to limits on construction noise, this impact would be ***less than significant***.

Operational Noise

Operational noise would include traffic noise and noise from on-site activities. As discussed in Section XVII, Transportation, the existing fraternity operations generate approximately 77.49 daily trips. The proposed fraternity operations (i.e., the three-story building with 35 total beds) would generate approximately 71.53 daily trips, and the single-family home which would be vacated and placed for sale or lease to a third party on the open market would generate approximately 9.52 daily trips. As such, the proposed project would result in an increase of 3.56 daily trips compared to the existing baseline condition.

To describe future noise levels due to the nominal increase in traffic, FHWA Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. Direct inputs to the model included traffic volumes available on the City of Davis' website.[3] Table 10 shows the predicted traffic noise levels associated with First Street, B Street, and E Street (with and without the project). These roadways are proximate to the project site.

Table 10: Noise Calculations for Surrounding Roadway Segments

Roadway	*ADT*	*Contours (ft)*			*Level, dBA*	*Change*
		60 dBA	*65 dBA*	*70 dBA*		
Existing						
First Street	7,853	57	26	12	60.8	--
B Street	9,659	67	31	14	61.9	--
E Street	4,329	39	18	8	58.4	--
Existing Plus Project						
First Street	7,664	57	27	12	60.9	0.1
B Street	9,740	67	31	14	61.9	0.0
E Street	4,410	40	18	9	58.5	0.1

SOURCES: FHWA-RD-77-108, AND SAXELBY ASSOCIATES, 2019.

The data in the table shows that project-related traffic noise level increases under the existing plus project scenario would be a maximum of 0.1 dBA along First Street and E Street and a 0.0 dBA increase along B Street. This traffic noise increase is very small and not discernible to the human ear. These increases are well below the 3-dBA standard, making it an insignificant increase.

Additionally, the proposed parking areas would be moved from the current location along D Street to the internal portion of the project site. The revised parking layout would not increase noise associated with parking. As such, traffic noise is not anticipated to increase as a result of the project.

[3] Available at: https://cityofdavis.org/city-hall/public-works/transportation/traffic-division-home/traffic-data-map.

Noise from on-site activities would be comparable to the existing condition. The project does not propose any new noise-generating uses beyond those that currently exist, such as a pool or other outdoor facilities. The existing site plan has outdoor lawn areas in the front, rear, and side yards. The proposed site plan would also provide side and rear yards with patio and/or lawn areas. No other noise-generating uses would be constructed.

As such, operational noise impacts associated with implementation of the proposed project would be ***less than significant***.

Response b): Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

Human and structural response to different vibration levels is influenced by several factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 11 indicates that the threshold for damage to structures ranges from 0.2 to 0.6 peak particle velocity in inches per second (in/sec p.p.v). One-half this minimum threshold or 0.1 in/sec p.p.v. is considered a safe criterion that would protect against architectural or structural damage. The general threshold at which human annoyance could occur is noted as 0.1 in/sec p.p.v.

Table 11: Effects of Vibration on People and Buildings

Peak Particle Velocity		***Human Reaction***	***Effect on Buildings***
mm/sec.	***in./sec.***		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage.

SOURCE: CALTRANS. TRANSPORTATION RELATED EARTHBORN VIBRATIONS. TAV-02-01-R9601 FEBRUARY 20, 2002.

The vibration-generating activities typically happen during construction when activities such as grading, utilities placement, and road construction occur. Sensitive receptors which could be impacted by construction-related vibrations, especially vibratory compactors/rollers, are located approximately 75 feet or further from the activity. At this distance, construction vibrations are not predicted to exceed acceptable levels. Additionally, construction activities would be temporary in nature and would likely occur during normal daytime working hours.

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural. Table 12 shows the typical vibration levels produced by construction equipment.

Table 12: Vibration Levels for Varying Construction Equipment

Type of Equipment	*Peak Particle Velocity @ 25 feet (inches/second)*	*Peak Particle Velocity @ 100 feet (inches/second)*
Large Bulldozer	0.089	0.011
Loaded Trucks	0.076	0.010
Small Bulldozer	0.003	0.000
Auger/drill Rigs	0.089	0.011
Jackhammer	0.035	0.004
Vibratory Hammer	0.070	0.009
Vibratory Compactor/roller	0.210	0.026

SOURCE: FEDERAL TRANSIT ADMINISTRATION, TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES, MAY 2006

Table 12 data indicate that construction vibration levels anticipated for the proposed project are less than the 0.1 in/sec criteria at distances of 50 feet. Therefore, construction vibrations are not predicted to cause damage to existing buildings or cause annoyance to sensitive receptors. Implementation of the proposed project would have a ***less than significant*** impact relative to this environmental topic.

Response c): The project site is not located near an existing airport and is not within an existing airport land use plan. The nearest airport, UC Davis Airport, is a private airfield located approximately 2.5 miles west of the project site. The proposed project would, therefore, not expose people residing or working in the project area to excessive noise levels associated with such airport facilities. Implementation of the proposed project would have ***no impact*** relative to this topic.

XIV. POPULATION AND HOUSING

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

Responses to Checklist Questions

Response a): According to the 2017 US Census population estimates, the population in Davis is 68,986 people. The proposed project would result in the construction of replacement residential housing on a site that currently contains residential uses. The proposed three-story fraternity building would provide 35 total beds and nine total bathrooms. This would result in three fewer beds and four additional bathrooms compared to the existing houses. The project is consistent with the existing fraternity operations and would not increase the capacity of the project site. The proposed project would not include upsizing of offsite infrastructure or roadways. Implementation of the proposed project would not induce substantial population growth in an area, either directly or indirectly. Therefore, Implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

Response b): The project site is currently developed with three two-story adjacent Theta Xi fraternity houses. The proposed project includes merging the three lots located at 503, 509, and 515 First Street and re-subdividing the property into two lots for the redevelopment of one parcel with a consolidated 35-bed, three-story building. The project would include demolition of the buildings at 503 and 509 First Street (Bryson House, Jackson House, and a garage structure), the retention of the building at 515 First Street (TX Main House) on a reconfigured lot of approximately 9,450 sf, and the construction of a new three-story fraternity on the new 10,350 sf lot. The proposed three-story fraternity building would provide 35 total beds and nine total bathrooms. This would result in three fewer beds and four additional bathrooms compared to the existing houses.

Although the proposed project would reduce the number of beds by three compared to the existing condition, this would not necessitate the construction of replacement housing elsewhere. The existing fraternity houses would be demolished and reconsolidated in order to serve the fraternity. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

XV. PUBLIC SERVICES

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?			X	
Police protection?			X	
Schools?				X
Parks?			X	
Other public facilities?			X	

Responses to Checklist Questions

Response a):

Fire Protection

The City of Davis Fire Department (Fire Department) provides pre-hospital emergency medical services at the EMT-1D level; minimizes loss from fires, hazardous materials incidents and natural disasters and other emergency services; and ensures that the community's emergency service resources are effectively and efficiently managed. The Fire Department coordinates citywide planning for large scale disasters and emergency incidents.

The Fire Department is staffed by 44 shift personnel (nine captains and 35 firefighters), one fire chief, two division chiefs, one fire prevention captain and three administrative staff. The department consists of three fire stations located in Central, West, and South Davis. The shift personnel (firefighters) are divided into three shifts, each shift working a 24-hour day (56-hour work week). Fire Department equipment consists of three engines, one rescue, one squad, two grass/wildland units, one water tender and two reserve engines and two antique fire apparatus.

The department consists of three fire stations located in Central, West, and South Davis. The nearest fire station to the project site is located approximately 0.32 miles north of the site.

The proposed project would not include additional residential units, or people to the City of Davis. The proposed project will not result in intensification of land use, or the addition of structures or uses that would differ from the current General Plan. No additional demand for fire protection will be created by the project. Implementation of the proposed project wouldn't require additional demands for fire protection services from the City of Davis Fire Department. Therefore, implementation of the proposed project will have a ***less than significant*** impact relative to this topic.

The proposed project would not result in a need to construct a new fire station or physically alter an existing fire station. The Fire Department would receive development impact fees from the project for capital improvements and infrastructure costs even though a new facility would not be created. The fair share funds are intended to pay for project financial impacts on fire

protection service. The proposed project's environmental impact to fire service is considered ***less than significant***.

Police Protection

The City of Davis Police Department currently operates out of a single station at 2600 Fifth Street in Davis. There are currently 61 sworn police officers, 45 support professionals and normally two police patrol dogs, plus Police Department volunteers. The Police Department provides professional law enforcement, maintenance of public order and safety, crime prevention planning, and coordination services that contribute to discouraging criminal behavior and enhancing community livability and sustainability.

The proposed project would not include additional residential units, or people to the City of Davis. The existing fraternity houses would be demolished and reconsolidated in order to serve the fraternity. The proposed project will not result in intensification of land use, or the addition of structures or uses that would differ from the current General Plan. No additional demand for police protection will be created by the project. Implementation of the proposed project wouldn't require additional demands for police protection services from the City of Davis Police Department. Therefore, implementation of the proposed project will have ***no impact*** relative to this topic.

The proposed project would not result in a need to construct a new police station or physically alter an existing police station. As previously stated, the development impact fees for capital improvements and infrastructure costs would be collected. The fair share funds are intended to pay for project financial impacts on police protection service. The proposed project's environmental impact to police service is considered ***less than significant***.

Schools

The proposed project is located within the service boundaries of the Davis Joint Unified School District (DJUSD). The DJUSD covers an area of 126 square miles and employs approximately 1,000 people. The district maintains eight (8) standard elementary schools, one (1) "magnet" elementary school (César Chávez), three (3) junior high schools, one (1) comprehensive high school, one "magnet" high school, one School for Independent Study, and one continuation school. The future residents of the proposed fraternity building would be enrolled at UC Davis, and would not increase enrollment at any DJUSD schools. The proposed project would not directly, or indirectly increase the student population in the area. The proposed project will not result in intensification of land use, or the addition of structures or uses that would differ from the current General Plan. Therefore, the proposed project would not result in the need for new school facilities, thus it is anticipated to have ***no impact*** relative to this topic.

Parks

The proposed project will not result in intensification of land uses, or the addition of structures or uses that would differ from the current General Plan. Therefore, the proposed project would not significantly increase the use of existing facilities. Furthermore, it is not anticipated that any substantial physical deterioration of existing facilities would occur, or be accelerated.

The project would consolidate all living and study areas into the proposed three-story building with partial basement, a detached laundry, storage building, and trash enclosure, and associated site landscaping with exterior meeting and gathering spaces. There would also be a dedicated "Bike Barn" with bike maintenance space and a one-to-one ratio of covered and secured bike storage to beds. A new concealed off-street parking and recreation area would also be constructed in the rear of the site.

The project would result in the demolition of two fraternity houses and the construction of one replacement house which would consolidate the existing use into one structure and lot. The project would not directly introduce new residents to the City, and therefore would not substantially increase demand for public park facilities to the extent that modification of existing facilities or construction of new park facilities would be necessary. As such, the proposed project would have a ***less than significant*** impact relative to this topic.

Other Public Facilities

The proposed project would not result in a need for other public facilities that are not addressed in the Utilities and Service Section. The proposed project does not trigger the need for new facilities associated with other public services. The proposed project will not result in intensification of land use, or the addition of structures or uses that would differ from the current General Plan. Consequently, new facilities or other public services are not proposed at this time. Implementation of the proposed project would have a ***less than significant*** impact relative to this issue.

XVI. RECREATION

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

Responses to Checklist Questions

Responses a), b): The proposed project will not result in intensification of land uses, or the addition of structures or uses that would differ from the current General Plan. Therefore, the proposed project would not significantly increase the use of existing facilities. Furthermore, it is not anticipated that any substantial physical deterioration of existing facilities would occur, or be accelerated.

The project would consolidate all living and study areas into the proposed three-story building with partial basement, a detached laundry, storage building, and trash enclosure, and associated site landscaping with exterior meeting and gathering spaces. There would also be a dedicated "Bike Barn" with bike maintenance space and a one-to-one ratio of covered and secured bike storage to beds. A new concealed off-street parking and recreation area would also be constructed in the rear of the site.

The proposed project would not increase the use of existing parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Implementation of the proposed project would have a ***less than significant*** impact relative to

XVII. TRANSPORTATION

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

Responses to Checklist Questions

Response a): The proposed project would redevelop an existing fraternity site with new fraternity uses. The project site is located along a major arterial roadway and many bicycle and pedestrian facilities are available for alternative transportation modes. The proposed project would not interfere with any existing pedestrian/bicycle facilities, and would not preclude construction of any future facilities.

There are two Unitrans routes that pass the project site: the 'M' line and the 'W' line. The 'M' line provides service to the Memorial Union Terminal and the 'W' line provides service to the Silo Terminal. The project would not increase transit use during peak periods compared to the existing baseline. The demolition of the two residences and subsequent development of the proposed three-story fraternity residence would result in three fewer beds (i.e., three fewer residents) compared to the existing condition. Therefore, the amount of transit use would be comparable to the existing baseline. The proposed project would not interfere with any existing transit facilities, and would not preclude construction of any future facilities.

Similarly, because the number of residents would be comparable the existing condition, the operations on the nearby project roadways are not expected to degrade. The proposed project would not reduce LOS on any streets or intersections to an unacceptable LOS, or substantially worsen an already existing peak-hour LOS F on any streets or intersections.

In summary, impacts related to conflicts with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, would be ***less than significant***.

Response b): Vehicle-miles-traveled (VM) is considered a useful metric in understanding how a project can affect the efficiency of the transportation system. By definition, one VMT occurs when a vehicle is driven one mile. In addition, a given VMT value represents vehicular miles of travel for entire weekday. Lastly, VMT values in this section represent the full length of a given trip, and are not truncated at city, county, or region boundaries.

According to the CalEEMod outputs for the existing operations, the existing fraternity operations generate approximately 77.49 daily trips. The proposed fraternity operations (i.e., the three-story building with 35 total beds) would generate approximately 71.53 daily trips, and the single-

family home which would be vacated and placed for sale or lease to a third party on the open market would generate approximately 9.52 daily trips. As such, the proposed project would result in an increase of 3.56 daily trips compared to the existing baseline condition. Therefore, the number of operational trips would be comparable to the existing baseline. As such, the proposed project would not reduce LOS on any streets or intersections to an unacceptable LOS, or substantially worsen an already existing peak-hour LOS F on any streets or intersections.

As noted above, the demolition of the two residences and subsequent development of the proposed three-story fraternity residence would result in three fewer beds (i.e., three fewer residents) compared to the existing condition. Therefore, as noted above, the number of operational trips would be comparable to the existing baseline. The increase of 3.56 daily trips would be spread out throughout the day, meaning that the number of peak hour trips would be negligible. No other uses or visitor serving areas are included in the project. Therefore, the project is not expected to result in an overall increase in vehicle trips within the area. As such, impacts are considered ***less than significant*** relative to this topic.

Responses c), d): No site circulation or access issues have been identified that would cause a traffic safety problem/hazard or any unusual traffic congestion or delay that could impede emergency vehicles or emergency access. The project would include a new parking lot accessed from D Street through a secured vehicle gate. The new concealed off-street parking and recreation area in the rear would significantly increase the number of conforming off-street parking spaces available to the fraternity. The project does not include any design features or incompatible uses that pose a significant safety risk. The project would create no adverse impacts to emergency vehicle access or circulation. Therefore, project implementation would have a ***less than significant*** impact relative to this topic.

XVIII. TRIBAL CULTURAL RESOURCES

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

Responses to Checklist Questions

Responses a.i), a.ii): The City has initiated tribal consultation in accordance with Assembly Bill (AB) 52. In letters dated April 27, 2018, the City sent tribal consultation letters to the Yocha Dehe Winun Nation. In the letter, the City provided the tribe with information regarding the proposed project and requested that the tribes supply any information they might have concerning prehistoric sites or traditional use areas within the project site. The Yocha Dehe Winun Nation responded to the letter on Mar 22, 2018. The Yocha Dehe letter notes that the project site is within the aboriginal territories of the Yocha Dehe Wintun Nation. Therefore, the Tribe has cultural interest and authority in the project area. The letter further notes that the Tribe has concerns that the project would impact known archaeological and/or cultural sites. The letter concludes that the Yocha Dehe Wintun Nation recommends including cultural monitors during development or ground disturbance, including backhoe and trenching excavations.

Based on known historical and archaeological resources in the region, and the potential for undocumented underground cultural resources in the region, it has been determined that the potential impacts on cultural resources caused by the proposed project will require a detailed analysis in the EIR. As such, the lead agency will examine each of the three environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact on cultural resources. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will include an overview of the prehistory and history of the area, the potential for surface and subsurface cultural resources to be found in the area, the types of cultural resources that may be expected to be found, a review of existing regulations and policies that protect cultural resources, a review of the Historical Resources Analysis Study completed for the project site, an impact analysis, and mitigation that should be implemented in order to reduce potential impacts to cultural resources. In addition, the CEQA process will include a request to the Native American Heritage Commission for a list of local Native American groups that should be

contacted relative to this project. The CEQA process will also include consultation with any Native American groups that have requested consultation with the City of Davis.

XIX. UTILITIES AND SERVICE SYSTEMS

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

Responses to Checklist Questions

Responses a)-c):

Water

The City currently provides water service to the project site. The proposed project, if approved by the City, is capable of being served by the City from the City's existing and future portfolio of water supplies. The proposed project would connect to the City's existing water distribution infrastructure, including the infrastructure located adjacent to the project site, along First Street and D Street. The water supply for the proposed project would have the same water supply reliability and water quality as the water supply available to each of the City's other existing and future water customers.

There are three primary water rights and contracts (collectively, "water supplies") that are used within the City's existing service area and SOI. All three of these water supplies are used to meet the water demands for the City's residents. In several areas within the City, the water supplies can be interchanged and commingled for delivery to end users. The water supplies are:

- WDCWA SWRCB Appropriative Water Right Permit 20281;
- WDCWA's CVP Contract No. 14-06-200-7422X-R-1; and
- City of Davis' groundwater rights.

The project would include demolition of the buildings at 503 and 509 First Street (Bryson House, Jackson House, and a garage structure), the retention of the building at 515 First Street (TX Main

House) on a reconfigured lot of approximately 9,450 sf, and the construction of a new three-story fraternity on the new 10,350 sf lot. The existing houses provide 38 total beds and five total bathrooms (including seven toilets, ten basins, and nine showerheads). The proposed thee-story fraternity building would provide 35 total beds and nine total bathrooms (including ten toilets, eighteen basins, and nine showerheads).

Limited amounts of water would be necessary during the construction phase of the project, but this would be a temporary use of water for construction related activities, and would not be in substantial amounts.

Although the project would increase the number of toilets and basins compared to the existing condition, the proposed appliances and facilities would be more energy- and water-efficient. Additionally, the project would use a low water use landscaping and irrigation system. The proposed project will not result in intensification of land use, or the addition of structures or uses that would differ from the current use. No additional demand for water will be created by the project beyond the existing condition. Therefore, a ***less than significant*** impact would occur related to water supply and water infrastructure.

Wastewater

The City currently provides wastewater service to the project site. Wastewater generated at the project site would be conveyed to the City's Wastewater Treatment Plant (WWTP) for treatment and disposal. The WWTP would be sized to accommodate 6.0 million gallons per day (MGD) of average dry weather flow (ADWF). ADWF is defined as the average of the three consecutive lowest-flow calendar months, which for the City usually coincides with the period of July through September. Now that the Secondary and Tertiary Improvements (STI) Phase of the WWTP upgrade project has been completed, West Yost has estimated that the available ADWF capacity of the WWTP is 1.66 MGD, or 28 percent of design capacity[4].

As noted above, the project would include demolition of the buildings at 503 and 509 First Street, the retention of the building at 515 First Street on a reconfigured lot of approximately 9,450 sf, and the construction of a new three-story fraternity on the new 10,350 sf lot. The three existing houses provide 38 total beds and five total bathrooms. The proposed three-story fraternity building would provide 35 total beds and nine total bathrooms. The TX Main House would not be retained for TX Fraternity uses, and no changes (i.e., addition or removal of bedrooms or bathrooms) to the TX Main House are proposed as part of the project. This would result in three fewer beds and four additional bathrooms compared to the existing houses. The increase in wastewater generated by the four additional bathrooms would be nominal, and would not result in exceedance of the design capacity of the WWTP.

The proposed project will not result in intensification of land use, or the addition of structures or uses that would differ from the current use. No additional demand for wastewater treatment will be created by the project.

The current capacity of the WWTP would be sufficient to handle the wastewater flow from the proposed project. In addition, the proposed project is required to pay sewer impact fees which would contribute towards the cost of future upgrades, when needed. As a result, the proposed

[4] West Yost Associates. Impacts of Innovation Center/Nishi Property Development on Wastewater Collection System Capacity. Technical Memorandum. March 25, 2015.

project would not have adverse impacts to wastewater treatment capacity. Because the project applicant would pay City sewer impact fees to redevelop the site, and adequate long-term wastewater treatment capacity is available to serve full build-out of the project, a ***less than significant*** impact would occur related to requiring or resulting in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Responses d), e): Solid waste collection and disposal in the City of Davis (including the project site) is provided by Davis Waste Removal, Inc. (DWR). Non-recyclable waste generated by the City of Davis is disposed of at the 722-acre Yolo County Central Landfill. This landfill has a permitted maximum disposal of 1,800 tons per day. The total permitted capacity of the landfill is 49,035,200 cubic yards, which is expected to accommodate an operational life of about 68 years (January 1, 2081).

As previously stated, the proposed project will not result in intensification of land use, or the addition of structures or uses that would differ from the current use. No additional demand for landfill, or other waste facilities will be created by the project operation. However, limited amounts of solid waste could be generated during the construction phase of the project, but this would be temporary, and would not be in substantial amounts, and would not interfere with a waste facility's permitted capacity.

The proposed project would be required to comply with applicable state and local requirements including those pertaining to solid waste, construction waste diversion, and recycling. Specifically, Chapter 32 of the City's Municipal Code regulates the management of garbage, recyclables, and other wastes. Chapter 32 sets forth solid waste collection and disposal requirements for residential and commercial customers, and addresses yard waste, hazardous materials, recyclables, and other forms of solid waste.

The project would not interfere with regulations related to solid waste. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

XX. WILDFIRE

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

Responses to Checklist Questions

Response a): Implementation of the proposed project would not result in any substantial modifications to the existing roadway system and would not interfere with potential evacuation or response routes used by emergency response teams. The proposed project would also not interfere with any emergency response plan or emergency evaluation plan. As shown on Figure 7, the project site would include one point along D Street. Therefore, impacts from project implementation would be considered ***less than significant*** relative to this topic.

Responses b), c): The project would include demolition of the buildings at 503 and 509 First Street (Bryson House, Jackson House, and a garage structure), the retention of the building at 515 First Street (TX Main House) on a reconfigured lot of approximately 9,450 sf, and the construction of a new three-story fraternity on the new 10,350 sf lot. The project site is surrounded by existing urban uses and is considered an infill development. The proposed three-story fraternity building would be constructed in accordance with the most recent California Building Standards Code, which requires sprinkler systems in all new one-and two-family dwellings and townhouse construction statewide.

No additional demand for fire protection will be created by the project. Implementation of the proposed project wouldn't require additional demands for fire protection services from the City of Davis Fire Department beyond the existing condition. The project would not exacerbate fire risk, or require the installation or maintenance of infrastructure that may exacerbate fire risk. Therefore, impacts from project implementation would be considered ***less than significant*** relative to this topic.

Response d): Runoff from the project site currently flows to the existing City storm drains located in First Street and D Street. Upon development of the site, stormwater would continue to flow to the storm drains in the adjacent roadways. As such, the proposed drainage would be nearly identical to the existing condition. Additionally, the project site is located within FEMA Zone X (un-shaded), indicating that the site is located outside of the 100-year flood hazard zone.

Further, because the site is essentially flat and located in an existing urbanized area of the City, downstream landslides would not occur. Therefore, impacts from project implementation would be considered ***less than significant*** relative to this topic.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

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

Responses to Checklist Questions

Responses a)-b): As discussed in Section IV, Biological Resources, the proposed project would not: have the potential to substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of a rare or endangered plant or animal. Special-status plant or wildlife species have not been recorded on the project site. The project site is currently developed and disturbed. There is no riparian or other sensitive habitat types located on-site. Although various special-status plant species have been documented within five-miles of the site, none are present on the project site.

There is limited potential for some special-status bird species to be found on-site. The bird species which have been documented to occur within five miles of the project site include: burrowing owl (*Athene cunicularia*), northern harrier (*Circus hudsonius*), Swainson's hawk (*Buteo swainsoni*), tricolored blackbird (*Agelaius tricolor*), western snowy plover (*Charadrius alexandrinus nivosus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), and white-tailed kite (*Elanus leucurus*). Suitable habitat for ground-nesting burrowing owl species is not present on the project site.

There are a variety of raptors and/or birds protected by the MBTA that could utilize this habitat for nesting. Because the site does not contain open fields or grassland type habitats, the project would not eliminate foraging habitat on the project site. However, development of the project would require the removal of some on-site trees. Construction activities that occur during the nesting season (generally March 1-August 31) could disturb nesting sites if they were present during construction. Mitigation Measure Bio-1 requires preconstruction surveys for protected

birds if construction would occur during the nesting season for birds protected under the MBTA and/or California Fish and Game Code.

As such, the proposed project would not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of a rare or endangered plant or animal.

However, it has been determined that the potential for the proposed project to: eliminate important examples of the major periods of California history or prehistory; create cumulatively considerable impacts; or adversely affect human beings will require more detailed analysis in an EIR. As such, the City of Davis will examine each of these environmental issues in the EIR and will decide whether the proposed project has the potential to have significant impacts on these environmental issues. At this point a definitive impact conclusion for each of these two environmental topics will not be made, rather both are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

Response c): The construction phase could affect surrounding neighbors through increased air emissions and noise. With the implementation of the conditions of approval, regulatory standards, and best management practices, the project impacts would be less than significant related to these topics. The operational phase of the project would be comparable to the existing baseline condition. As discussed throughout this Initial Study, the proposed project would not cause substantial adverse effects on human beings. the proposed project would not have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly. As such, a ***less than significant*** impact would result.

REFERENCES

Brown and Caldwell. 2015 (January 27). Water Supply Assessment for the Nishi Gateway Project. Prepared for City of Davis.

Envirostar database search (DTSC, 2015). Available online at: https://www.envirostor.dtsc.ca.gov/public/.

CALEEMOD. v2016.3.2. California Air Pollution Control Officers Association (CAPCOA). Accessed February 2019. Available at: http://www.caleemod.com/

California Air Pollution Control Officers Association. Quantifying Greenhouse Gas Mitigation Measures. August 2010.

California Department of Conservation. 2016. California Important Farmland Finder. Available at: <http://maps.conservation.ca.gov/ciff/ciff.html>.

California Department of Conservation. California Land Conservation Act 2016 Status Report, The Williamson Act. December 2016.

California Department of Resources Recycling and Recovery (CalRecycle). SWIS Facility Detail – Yolo County Central Landfill (57-AA-0001). Accessed January 2019. Available at: <https://www2.calrecycle.ca.gov/SWFacilities/Directory/57-AA-0001/Detail/>.

California Energy Commission. 2005. Global Climate Change: In Support of the 2005 Integrated Energy Policy Report. (CEC-600-2005-007.) Available at: <http://www.energy.ca.gov/2005publications/CEC-100-2005-007/CEC-100-2005-007-CMF.PDF>.

California Energy Commission. 2006. Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004. (CEC-600-2006-013-SF.) Available at: <http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-600-2006-013-SF.PDF>.

California Herps. A Guide to Amphibians and Reptiles of California. Available at: <http://www.californiaherps.com/>.

City of Davis 2010 Urban Water Management Plan (City of Davis 2010 UWMP, 2011). July 2011.

City of Davis Climate Action and Adaptation Plan. Adopted June 2010.

City of Davis General Plan (City of Davis General Plan Update, 2007). Adopted May 2001. Amended Through January 2007.

City of Davis General Plan EIR (Davis General Plan EIR, 2000). January 2000.

City of Davis Staff Report. April 21, 2009. Subject: Greenhouse Gas Reduction Thresholds and Standards for New Residential Development.

City of Davis Traffic Data Map. Available at: <https://cityofdavis.org/city-hall/public-works/transportation/traffic-division-home/traffic-data-map>.

Davis Fire Department Information: "About DFD" (City of Davis, 2015). September 2015. Available at: http://cityofdavis.org/city-hall/fire-department/about-dfd.

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

Historic Resources Associates. Historical Resource Analysis Study of 503, 509, and 515 1st Street, Davis, Yolo County, California 95616. October 2016.

Intergovernmental Panel on Climate Change. 2007. Climate Change 2007: The Physical Science Basis, Summary for Policy Makers. Available at: <http://fire.pppl.gov/ipcc_summary_020207.pdf>.

Saxelby Acoustics. Noise Contour Analysis Data Input Sheet, Theta Xi Redevelopment Project. February 14, 2019.

State Water Resources Control Board 2010 Integrated Report Clean Water Act Sections 303(d) and 305(b) (SWRCB, 2010). April 19, 2010. Available online at: <http://www.waterboards.ca.gov/water_issues/programs/tmdl/2010state_ir_reports/docs/2010ir0419.pdf>.

West Yost Associates. Impacts of Innovation Center/Nishi Property Development on Wastewater Collection System Capacity. Technical Memorandum. March 25, 2015.

Yolo-Solano Air Quality Management District. Handbook for Assessing and Mitigating Air Quality Impacts. Adopted July 11, 2007.

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Appendix A

Air Quality and Greenhouse Gas Modeling Outputs

THETA XI CALEEMOD ASSUMPTIONS

Existing Uses (Operational Only)

- Air District: YSAQMD
- Climate Zone: 4
- Land Use Setting: Urban
- Start of Construction: Monday, July 3, 2000
- Operational Year: 2000
- Utility Company: PG&E
- Land Uses:

LAND USE TYPE AND SUBTYPE	UNIT AMOUNT AND METRIC	LOT ACREAGE	SQUARE FOOTAGE	POPULATION
Residential – Apartments Mid Rise	13 DU[1]	--	8,038	38
CALCULATED USING THE UC DAVIS LONG RANGE DEVELOPMENT PLAN EIR (2018) OCCUPANCY RATE OF 0.342 UNITS PER RESIDENT (38 BEDS × 0.342 = 12.996 DU).				

- Operational Tab – Mobile:
  - According to the Sterling 5th Street Apartments Draft EIR, student housing uses generate 5.961 daily trips per unit.
- Operational Tab – Energy:
  - Using Historical Data (due to the age of the existing structures)
- Mitigation Tab:
  - Traffic:
    - Low Density Suburban Project Setting

Proposed Project (Operation and Construction)

- Air District: YSAQMD
- Climate Zone: 4
- Land Use Setting: Urban
- Start of Construction: Monday, July 1, 2019
- Operational Year: 2020
- Utility Company: PG&E
- CO2 Intensity Factor: 290 lbs/MWh
  - Note: Updated PG&E emission factor for 2020 reflecting RPS reductions per PG&E's Greenhouse Gas Emission Factors: Guidance for PG&E Customers (November 2015). Available: <https://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf>
- Land Uses:

LAND USE TYPE AND SUBTYPE	UNIT AMOUNT AND METRIC	LOT ACREAGE	SQUARE FOOTAGE	POPULATION
Residential – Single Family	1 DU	--	3,964	--
Residential – Apartments Mid Rise	12 DU[1]	--	9,802	35
CALCULATED USING THE UC DAVIS LONG RANGE DEVELOPMENT PLAN EIR (2018) OCCUPANCY RATE OF 0.342 UNITS PER RESIDENT (35 BEDS × 0.342 = 11.97 DU).				

- Construction Tab – Phasing:

PHASE #	PHASE NAME	START DATE	END DATE	# DAYS/WEEK	# DAYS
1	Demolition	7/1/2019	7/12/2019	5	10
2	Site Preparation	7/13/2019	7/26/2019	5	10
3	Grading	7/26/2019	8/22/2019	5	20
5	Paving	8/22/2019	9/18/2019	5	20
4	Building Construction	9/18/2019	1/7/2020	5	80
6	Architectural Coating	1/7/2020	3/2/2020	5	40

- Construction Tab – Demolition:
    - Jackson House (includes garage): 2,065 sf
    - Bryson House: 2,009 sf
    - *Total: 4,074 sf*
- Operational Tab – Mobile:
    - According to the Sterling 5th Street Apartments Draft EIR, student housing uses generate 5.961 daily trips per unit.
- Mitigation Tab:
    - Construction:
        - Water exposed areas 2 times per day
        - Unpaved road mitigation 10 MPH
    - Traffic:
        - Low Density Suburban Project Setting
    - Energy:
        - Exceed Title 24 (30% improvement)
            - Note: The Project would meet or exceed this mitigation by conforming to Tier 2 of the Title 24 Energy Efficiency Standards (as required by Chapter 8.01 of the City's Municipal Code).
        - Install High Efficiency Lighting (16% lighting energy reduction)
            - Note: According to CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*, a minimum of a 16% reduction in electricity usage is expected compared with low-efficiency lighting (i.e., metal halide post top lights as opposed to typical mercury cobrahead lights).
    - Area:
        - No Hearths
    - Water:
        - Install low flow bathroom faucets
        - Install low-flow kitchen faucets
        - Install low-flow toilets
        - Install low-flow showers
        - Use water-efficient irrigation systems

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	1.00	Dwelling Unit	0.32	3,964.00	3
Apartments Mid Rise	12.00	Dwelling Unit	0.32	9,802.00	35

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	6.8	**Precipitation Freq (Days)**	55
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See CalEEMod Assumptions

Land Use - See CalEEMod Assumptions

Construction Phase - See CalEEMod Assumptions

Demolition -

Vehicle Trips - See CalEEMod Assumptions

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

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Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	10
tblConstructionPhase	NumDays	5.00	40.00
tblConstructionPhase	NumDays	100.00	80.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	PhaseEndDate	12/18/2019	3/2/2020
tblConstructionPhase	PhaseEndDate	12/4/2019	1/7/2020
tblConstructionPhase	PhaseEndDate	7/17/2019	8/22/2019
tblConstructionPhase	PhaseEndDate	12/11/2019	9/18/2019
tblConstructionPhase	PhaseEndDate	7/15/2019	7/26/2019
tblConstructionPhase	PhaseStartDate	12/12/2019	1/7/2020
tblConstructionPhase	PhaseStartDate	7/18/2019	9/18/2019
tblConstructionPhase	PhaseStartDate	7/16/2019	7/26/2019
tblConstructionPhase	PhaseStartDate	12/5/2019	8/22/2019
tblGrading	AcresOfGrading	5.00	0.50
tblLandUse	LandUseSquareFeet	1,800.00	3,964.00
tblLandUse	LandUseSquareFeet	12,000.00	9,802.00
tblLandUse	Population	34.00	35.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblVehicleTrips	WD_TR	6.65	5.96

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0650	0.6296	0.5105	8.4000e-004	0.5686	0.0371	0.6057	0.0611	0.0344	0.0956	0.0000	74.6415	74.6415	0.0195	0.0000	75.1291
2020	0.0934	0.0562	0.0567	9.0000e-005	0.0486	3.5300e-003	0.0522	4.9300e-003	3.4200e-003	8.3500e-003	0.0000	8.0937	8.0937	1.2200e-003	0.0000	8.1242
Maximum	**0.0934**	**0.6296**	**0.5105**	**8.4000e-004**	**0.5686**	**0.0371**	**0.6057**	**0.0611**	**0.0344**	**0.0956**	**0.0000**	**74.6415**	**74.6415**	**0.0195**	**0.0000**	**75.1291**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0650	0.6296	0.5105	8.4000e-004	0.2863	0.0371	0.3234	0.0310	0.0344	0.0654	0.0000	74.6415	74.6415	0.0195	0.0000	75.1290
2020	0.0934	0.0562	0.0567	9.0000e-005	0.0245	3.5300e-003	0.0281	2.5200e-003	3.4200e-003	5.9400e-003	0.0000	8.0937	8.0937	1.2200e-003	0.0000	8.1242
Maximum	**0.0934**	**0.6296**	**0.5105**	**8.4000e-004**	**0.2863**	**0.0371**	**0.3234**	**0.0310**	**0.0344**	**0.0654**	**0.0000**	**74.6415**	**74.6415**	**0.0195**	**0.0000**	**75.1290**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**49.64**	**0.00**	**46.57**	**49.30**	**0.00**	**31.34**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2019	9-30-2019	0.3271	0.3271
2	10-1-2019	12-31-2019	0.3604	0.3604
3	1-1-2020	3-31-2020	0.1496	0.1496
		Highest	0.3604	0.3604

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1902	0.0210	1.4914	2.5300e-003		0.1962	0.1962		0.1962	0.1962	18.6749	5.3562	24.0311	0.0180	1.4100e-003	24.8999
Energy	7.2000e-004	6.1200e-003	2.6000e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	14.6643	14.6643	8.9000e-004	2.9000e-004	14.7721
Mobile	0.0299	0.2106	0.3189	1.1900e-003	4.8545	1.3200e-003	4.8558	0.4965	1.2500e-003	0.4978	0.0000	109.4318	109.4318	5.9600e-003	0.0000	109.5809
Waste						0.0000	0.0000		0.0000	0.0000	1.3580	0.0000	1.3580	0.0803	0.0000	3.3644
Water						0.0000	0.0000		0.0000	0.0000	0.2687	0.8487	1.1174	0.0277	6.7000e-004	2.0090
Total	**1.2208**	**0.2377**	**1.8129**	**3.7600e-003**	**4.8545**	**0.1980**	**5.0525**	**0.4965**	**0.1979**	**0.6944**	**20.3016**	**130.3010**	**150.6026**	**0.1328**	**2.3700e-003**	**154.6263**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0653	1.1200e-003	0.0969	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	0.1577	0.1577	1.5000e-004	0.0000	0.1615
Energy	5.7000e-004	4.8500e-003	2.0600e-003	3.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	12.8043	12.8043	8.3000e-004	2.5000e-004	12.9000
Mobile	0.0299	0.2106	0.3189	1.1900e-003	4.8545	1.3200e-003	4.8558	0.4965	1.2500e-003	0.4978	0.0000	109.4318	109.4318	5.9600e-003	0.0000	109.5809
Waste						0.0000	0.0000		0.0000	0.0000	1.3580	0.0000	1.3580	0.0803	0.0000	3.3644
Water						0.0000	0.0000		0.0000	0.0000	0.2150	0.7131	0.9281	0.0222	5.4000e-004	1.6417
Total	**0.0958**	**0.2166**	**0.4178**	**1.2300e-003**	**4.8545**	**2.2400e-003**	**4.8568**	**0.4965**	**2.1700e-003**	**0.4987**	**1.5730**	**123.1069**	**124.6799**	**0.1094**	**7.9000e-004**	**127.6485**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**92.16**	**8.89**	**76.95**	**67.29**	**0.00**	**98.87**	**3.87**	**0.00**	**98.90**	**28.19**	**92.25**	**5.52**	**17.21**	**17.63**	**66.67**	**17.45**

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2019	7/12/2019	5	10	
2	Site Preparation	Site Preparation	7/13/2019	7/26/2019	5	10	
3	Grading	Grading	7/26/2019	8/22/2019	5	20	
4	Building Construction	Building Construction	9/18/2019	1/7/2020	5	80	
5	Paving	Paving	8/22/2019	9/18/2019	5	20	
6	Architectural Coating	Architectural Coating	1/7/2020	3/2/2020	5	40	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 27,876; Residential Outdoor: 9,292; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	19.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	9.00	1.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3500e-003	0.0000	2.3500e-003	3.6000e-004	0.0000	3.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	**4.7700e-003**	**0.0430**	**0.0385**	**6.0000e-005**	**2.3500e-003**	**2.6900e-003**	**5.0400e-003**	**3.6000e-004**	**2.5600e-003**	**2.9200e-003**	**0.0000**	**5.2601**	**5.2601**	**1.0000e-003**	**0.0000**	**5.2852**

3.2 Demolition - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.0000e-005	2.7700e-003	4.5000e-004	1.0000e-005	0.0144	1.0000e-005	0.0144	1.4600e-003	1.0000e-005	1.4800e-003	0.0000	0.7472	0.7472	3.0000e-005	0.0000	0.7481
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.3000e-004	1.3500e-003	0.0000	0.0379	0.0000	0.0379	3.8300e-003	0.0000	3.8400e-003	0.0000	0.3463	0.3463	1.0000e-005	0.0000	0.3466
Total	**2.7000e-004**	**2.9000e-003**	**1.8000e-003**	**1.0000e-005**	**0.0523**	**1.0000e-005**	**0.0523**	**5.2900e-003**	**1.0000e-005**	**5.3200e-003**	**0.0000**	**1.0936**	**1.0936**	**4.0000e-005**	**0.0000**	**1.0946**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0600e-003	0.0000	1.0600e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	**4.7700e-003**	**0.0430**	**0.0385**	**6.0000e-005**	**1.0600e-003**	**2.6900e-003**	**3.7500e-003**	**1.6000e-004**	**2.5600e-003**	**2.7200e-003**	**0.0000**	**5.2601**	**5.2601**	**1.0000e-003**	**0.0000**	**5.2852**

3.2 Demolition - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.0000e-005	2.7700e-003	4.5000e-004	1.0000e-005	7.2800e-003	1.0000e-005	7.2900e-003	7.5000e-004	1.0000e-005	7.6000e-004	0.0000	0.7472	0.7472	3.0000e-005	0.0000	0.7481
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.3000e-004	1.3500e-003	0.0000	0.0191	0.0000	0.0191	1.9600e-003	0.0000	1.9600e-003	0.0000	0.3463	0.3463	1.0000e-005	0.0000	0.3466
Total	**2.7000e-004**	**2.9000e-003**	**1.8000e-003**	**1.0000e-005**	**0.0264**	**1.0000e-005**	**0.0264**	**2.7100e-003**	**1.0000e-005**	**2.7200e-003**	**0.0000**	**1.0936**	**1.0936**	**4.0000e-005**	**0.0000**	**1.0946**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-003	0.0446	0.0207	5.0000e-005		1.8400e-003	1.8400e-003		1.6900e-003	1.6900e-003	0.0000	4.3779	4.3779	1.3900e-003	0.0000	4.4126
Total	**3.6000e-003**	**0.0446**	**0.0207**	**5.0000e-005**	**2.7000e-004**	**1.8400e-003**	**2.1100e-003**	**3.0000e-005**	**1.6900e-003**	**1.7200e-003**	**0.0000**	**4.3779**	**4.3779**	**1.3900e-003**	**0.0000**	**4.4126**

3.3 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	7.0000e-005	6.7000e-004	0.0000	0.0189	0.0000	0.0189	1.9200e-003	0.0000	1.9200e-003	0.0000	0.1732	0.1732	0.0000	0.0000	0.1733
Total	**1.0000e-004**	**7.0000e-005**	**6.7000e-004**	**0.0000**	**0.0189**	**0.0000**	**0.0189**	**1.9200e-003**	**0.0000**	**1.9200e-003**	**0.0000**	**0.1732**	**0.1732**	**0.0000**	**0.0000**	**0.1733**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2000e-004	0.0000	1.2000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-003	0.0446	0.0207	5.0000e-005		1.8400e-003	1.8400e-003		1.6900e-003	1.6900e-003	0.0000	4.3779	4.3779	1.3900e-003	0.0000	4.4126
Total	**3.6000e-003**	**0.0446**	**0.0207**	**5.0000e-005**	**1.2000e-004**	**1.8400e-003**	**1.9600e-003**	**1.0000e-005**	**1.6900e-003**	**1.7000e-003**	**0.0000**	**4.3779**	**4.3779**	**1.3900e-003**	**0.0000**	**4.4126**

3.3 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	7.0000e-005	6.7000e-004	0.0000	9.5500e-003	0.0000	9.5500e-003	9.8000e-004	0.0000	9.8000e-004	0.0000	0.1732	0.1732	0.0000	0.0000	0.1733
Total	**1.0000e-004**	**7.0000e-005**	**6.7000e-004**	**0.0000**	**9.5500e-003**	**0.0000**	**9.5500e-003**	**9.8000e-004**	**0.0000**	**9.8000e-004**	**0.0000**	**0.1732**	**0.1732**	**0.0000**	**0.0000**	**0.1733**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5300e-003	0.0000	7.5300e-003	4.1400e-003	0.0000	4.1400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5300e-003	0.0860	0.0769	1.2000e-004		5.3700e-003	5.3700e-003		5.1200e-003	5.1200e-003	0.0000	10.5202	10.5202	2.0100e-003	0.0000	10.5704
Total	**9.5300e-003**	**0.0860**	**0.0769**	**1.2000e-004**	**7.5300e-003**	**5.3700e-003**	**0.0129**	**4.1400e-003**	**5.1200e-003**	**9.2600e-003**	**0.0000**	**10.5202**	**10.5202**	**2.0100e-003**	**0.0000**	**10.5704**

3.4 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.7000e-004	2.6900e-003	1.0000e-005	0.0757	1.0000e-005	0.0757	7.6700e-003	0.0000	7.6700e-003	0.0000	0.6927	0.6927	2.0000e-005	0.0000	0.6931
Total	**3.8000e-004**	**2.7000e-004**	**2.6900e-003**	**1.0000e-005**	**0.0757**	**1.0000e-005**	**0.0757**	**7.6700e-003**	**0.0000**	**7.6700e-003**	**0.0000**	**0.6927**	**0.6927**	**2.0000e-005**	**0.0000**	**0.6931**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.3900e-003	0.0000	3.3900e-003	1.8600e-003	0.0000	1.8600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5300e-003	0.0860	0.0769	1.2000e-004		5.3700e-003	5.3700e-003		5.1200e-003	5.1200e-003	0.0000	10.5202	10.5202	2.0100e-003	0.0000	10.5704
Total	**9.5300e-003**	**0.0860**	**0.0769**	**1.2000e-004**	**3.3900e-003**	**5.3700e-003**	**8.7600e-003**	**1.8600e-003**	**5.1200e-003**	**6.9800e-003**	**0.0000**	**10.5202**	**10.5202**	**2.0100e-003**	**0.0000**	**10.5704**

3.4 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.7000e-004	2.6900e-003	1.0000e-005	0.0382	1.0000e-005	0.0382	3.9200e-003	0.0000	3.9200e-003	0.0000	0.6927	0.6927	2.0000e-005	0.0000	0.6931
Total	**3.8000e-004**	**2.7000e-004**	**2.6900e-003**	**1.0000e-005**	**0.0382**	**1.0000e-005**	**0.0382**	**3.9200e-003**	**0.0000**	**3.9200e-003**	**0.0000**	**0.6927**	**0.6927**	**2.0000e-005**	**0.0000**	**0.6931**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0359	0.3683	0.2829	4.3000e-004		0.0227	0.0227		0.0209	0.0209	0.0000	38.3627	38.3627	0.0121	0.0000	38.6661
Total	**0.0359**	**0.3683**	**0.2829**	**4.3000e-004**		**0.0227**	**0.0227**		**0.0209**	**0.0209**	**0.0000**	**38.3627**	**38.3627**	**0.0121**	**0.0000**	**38.6661**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	4.6200e-003	9.6000e-004	1.0000e-005	0.0199	3.0000e-005	0.0199	2.0300e-003	3.0000e-005	2.0600e-003	0.0000	1.0043	1.0043	7.0000e-005	0.0000	1.0059
Worker	1.2900e-003	9.0000e-004	9.0800e-003	3.0000e-005	0.2555	2.0000e-005	0.2555	0.0259	2.0000e-005	0.0259	0.0000	2.3377	2.3377	7.0000e-005	0.0000	2.3393
Total	**1.4500e-003**	**5.5200e-003**	**0.0100**	**4.0000e-005**	**0.2754**	**5.0000e-005**	**0.2754**	**0.0279**	**5.0000e-005**	**0.0280**	**0.0000**	**3.3420**	**3.3420**	**1.4000e-004**	**0.0000**	**3.3453**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0359	0.3683	0.2829	4.3000e-004		0.0227	0.0227		0.0209	0.0209	0.0000	38.3626	38.3626	0.0121	0.0000	38.6661
Total	**0.0359**	**0.3683**	**0.2829**	**4.3000e-004**		**0.0227**	**0.0227**		**0.0209**	**0.0209**	**0.0000**	**38.3626**	**38.3626**	**0.0121**	**0.0000**	**38.6661**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	4.6200e-003	9.6000e-004	1.0000e-005	0.0101	3.0000e-005	0.0101	1.0500e-003	3.0000e-005	1.0700e-003	0.0000	1.0043	1.0043	7.0000e-005	0.0000	1.0059
Worker	1.2900e-003	9.0000e-004	9.0800e-003	3.0000e-005	0.1289	2.0000e-005	0.1289	0.0132	2.0000e-005	0.0132	0.0000	2.3377	2.3377	7.0000e-005	0.0000	2.3393
Total	**1.4500e-003**	**5.5200e-003**	**0.0100**	**4.0000e-005**	**0.1389**	**5.0000e-005**	**0.1390**	**0.0143**	**5.0000e-005**	**0.0143**	**0.0000**	**3.3420**	**3.3420**	**1.4000e-004**	**0.0000**	**3.3453**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.1500e-003	0.0221	0.0185	3.0000e-005		1.3100e-003	1.3100e-003		1.2000e-003	1.2000e-003	0.0000	2.5015	2.5015	8.1000e-004	0.0000	2.5217
Total	**2.1500e-003**	**0.0221**	**0.0185**	**3.0000e-005**		**1.3100e-003**	**1.3100e-003**		**1.2000e-003**	**1.2000e-003**	**0.0000**	**2.5015**	**2.5015**	**8.1000e-004**	**0.0000**	**2.5217**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	2.9000e-004	6.0000e-005	0.0000	1.3300e-003	0.0000	1.3300e-003	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0664	0.0664	0.0000	0.0000	0.0665
Worker	8.0000e-005	5.0000e-005	5.4000e-004	0.0000	0.0170	0.0000	0.0170	1.7300e-003	0.0000	1.7300e-003	0.0000	0.1510	0.1510	0.0000	0.0000	0.1510
Total	**9.0000e-005**	**3.4000e-004**	**6.0000e-004**	**0.0000**	**0.0184**	**0.0000**	**0.0184**	**1.8700e-003**	**0.0000**	**1.8700e-003**	**0.0000**	**0.2174**	**0.2174**	**0.0000**	**0.0000**	**0.2176**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.1500e-003	0.0221	0.0185	3.0000e-005		1.3100e-003	1.3100e-003		1.2000e-003	1.2000e-003	0.0000	2.5015	2.5015	8.1000e-004	0.0000	2.5217
Total	**2.1500e-003**	**0.0221**	**0.0185**	**3.0000e-005**		**1.3100e-003**	**1.3100e-003**		**1.2000e-003**	**1.2000e-003**	**0.0000**	**2.5015**	**2.5015**	**8.1000e-004**	**0.0000**	**2.5217**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	2.9000e-004	6.0000e-005	0.0000	6.7000e-004	0.0000	6.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0664	0.0664	0.0000	0.0000	0.0665
Worker	8.0000e-005	5.0000e-005	5.4000e-004	0.0000	8.5900e-003	0.0000	8.5900e-003	8.8000e-004	0.0000	8.8000e-004	0.0000	0.1510	0.1510	0.0000	0.0000	0.1510
Total	**9.0000e-005**	**3.4000e-004**	**6.0000e-004**	**0.0000**	**9.2600e-003**	**0.0000**	**9.2600e-003**	**9.5000e-004**	**0.0000**	**9.5000e-004**	**0.0000**	**0.2174**	**0.2174**	**0.0000**	**0.0000**	**0.2176**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.3000e-003	0.0785	0.0715	1.1000e-004		4.4300e-003	4.4300e-003		4.1100e-003	4.1100e-003	0.0000	9.5725	9.5725	2.7400e-003	0.0000	9.6409
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3000e-003**	**0.0785**	**0.0715**	**1.1000e-004**		**4.4300e-003**	**4.4300e-003**		**4.1100e-003**	**4.1100e-003**	**0.0000**	**9.5725**	**9.5725**	**2.7400e-003**	**0.0000**	**9.6409**

3.6 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	4.8000e-004	4.8400e-003	1.0000e-005	0.1363	1.0000e-005	0.1363	0.0138	1.0000e-005	0.0138	0.0000	1.2468	1.2468	3.0000e-005	0.0000	1.2477
Total	**6.9000e-004**	**4.8000e-004**	**4.8400e-003**	**1.0000e-005**	**0.1363**	**1.0000e-005**	**0.1363**	**0.0138**	**1.0000e-005**	**0.0138**	**0.0000**	**1.2468**	**1.2468**	**3.0000e-005**	**0.0000**	**1.2477**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.3000e-003	0.0785	0.0715	1.1000e-004		4.4300e-003	4.4300e-003		4.1100e-003	4.1100e-003	0.0000	9.5724	9.5724	2.7400e-003	0.0000	9.6409
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3000e-003**	**0.0785**	**0.0715**	**1.1000e-004**		**4.4300e-003**	**4.4300e-003**		**4.1100e-003**	**4.1100e-003**	**0.0000**	**9.5724**	**9.5724**	**2.7400e-003**	**0.0000**	**9.6409**

3.6 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	4.8000e-004	4.8400e-003	1.0000e-005	0.0687	1.0000e-005	0.0687	7.0500e-003	1.0000e-005	7.0600e-003	0.0000	1.2468	1.2468	3.0000e-005	0.0000	1.2477
Total	**6.9000e-004**	**4.8000e-004**	**4.8400e-003**	**1.0000e-005**	**0.0687**	**1.0000e-005**	**0.0687**	**7.0500e-003**	**1.0000e-005**	**7.0600e-003**	**0.0000**	**1.2468**	**1.2468**	**3.0000e-005**	**0.0000**	**1.2477**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0861					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8400e-003	0.0337	0.0366	6.0000e-005		2.2200e-003	2.2200e-003		2.2200e-003	2.2200e-003	0.0000	5.1065	5.1065	4.0000e-004	0.0000	5.1164
Total	**0.0910**	**0.0337**	**0.0366**	**6.0000e-005**		**2.2200e-003**	**2.2200e-003**		**2.2200e-003**	**2.2200e-003**	**0.0000**	**5.1065**	**5.1065**	**4.0000e-004**	**0.0000**	**5.1164**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	9.0000e-005	9.6000e-004	0.0000	0.0303	0.0000	0.0303	3.0700e-003	0.0000	3.0700e-003	0.0000	0.2684	0.2684	1.0000e-005	0.0000	0.2685
Total	**1.4000e-004**	**9.0000e-005**	**9.6000e-004**	**0.0000**	**0.0303**	**0.0000**	**0.0303**	**3.0700e-003**	**0.0000**	**3.0700e-003**	**0.0000**	**0.2684**	**0.2684**	**1.0000e-005**	**0.0000**	**0.2685**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0861					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8400e-003	0.0337	0.0366	6.0000e-005		2.2200e-003	2.2200e-003		2.2200e-003	2.2200e-003	0.0000	5.1065	5.1065	4.0000e-004	0.0000	5.1164
Total	**0.0910**	**0.0337**	**0.0366**	**6.0000e-005**		**2.2200e-003**	**2.2200e-003**		**2.2200e-003**	**2.2200e-003**	**0.0000**	**5.1065**	**5.1065**	**4.0000e-004**	**0.0000**	**5.1164**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	9.0000e-005	9.6000e-004	0.0000	0.0153	0.0000	0.0153	1.5700e-003	0.0000	1.5700e-003	0.0000	0.2684	0.2684	1.0000e-005	0.0000	0.2685
Total	**1.4000e-004**	**9.0000e-005**	**9.6000e-004**	**0.0000**	**0.0153**	**0.0000**	**0.0153**	**1.5700e-003**	**0.0000**	**1.5700e-003**	**0.0000**	**0.2684**	**0.2684**	**1.0000e-005**	**0.0000**	**0.2685**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0299	0.2106	0.3189	1.1900e-003	4.8545	1.3200e-003	4.8558	0.4965	1.2500e-003	0.4978	0.0000	109.4318	109.4318	5.9600e-003	0.0000	109.5809
Unmitigated	0.0299	0.2106	0.3189	1.1900e-003	4.8545	1.3200e-003	4.8558	0.4965	1.2500e-003	0.4978	0.0000	109.4318	109.4318	5.9600e-003	0.0000	109.5809

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	71.53	76.68	70.32	189,194	189,194
Single Family Housing	9.52	9.91	8.62	24,792	24,792
Total	81.05	86.59	78.94	213,986	213,986

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
Single Family Housing	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.516533	0.039972	0.192974	0.121896	0.024730	0.005840	0.032766	0.052716	0.001342	0.002151	0.007335	0.000694	0.001052
Single Family Housing	0.516533	0.039972	0.192974	0.121896	0.024730	0.005840	0.032766	0.052716	0.001342	0.002151	0.007335	0.000694	0.001052

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	7.1893	7.1893	7.2000e-004	1.5000e-004	7.2516
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	7.5809	7.5809	7.6000e-004	1.6000e-004	7.6466
NaturalGas Mitigated	5.7000e-004	4.8500e-003	2.0600e-003	3.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	5.6150	5.6150	1.1000e-004	1.0000e-004	5.6484
NaturalGas Unmitigated	7.2000e-004	6.1200e-003	2.6000e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	7.0834	7.0834	1.4000e-004	1.3000e-004	7.1255

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	103673	5.6000e-004	4.7800e-003	2.0300e-003	3.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	5.5324	5.5324	1.1000e-004	1.0000e-004	5.5653
Single Family Housing	29065.1	1.6000e-004	1.3400e-003	5.7000e-004	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.5510	1.5510	3.0000e-005	3.0000e-005	1.5602
Total		**7.2000e-004**	**6.1200e-003**	**2.6000e-003**	**4.0000e-005**		**5.0000e-004**	**5.0000e-004**		**5.0000e-004**	**5.0000e-004**	**0.0000**	**7.0834**	**7.0834**	**1.4000e-004**	**1.3000e-004**	**7.1255**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	83929.4	4.5000e-004	3.8700e-003	1.6500e-003	2.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	4.4788	4.4788	9.0000e-005	8.0000e-005	4.5054
Single Family Housing	21292.1	1.1000e-004	9.8000e-004	4.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1362	1.1362	2.0000e-005	2.0000e-005	1.1430
Total		**5.6000e-004**	**4.8500e-003**	**2.0700e-003**	**3.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.9000e-004**	**3.9000e-004**	**0.0000**	**5.6150**	**5.6150**	**1.1000e-004**	**1.0000e-004**	**5.6484**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	49540.2	6.5166	6.5000e-004	1.3000e-004	6.5731
Single Family Housing	8090.57	1.0643	1.1000e-004	2.0000e-005	1.0735
Total		**7.5809**	**7.6000e-004**	**1.5000e-004**	**7.6466**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	46918.5	6.1718	6.2000e-004	1.3000e-004	6.2252
Single Family Housing	7735.43	1.0175	1.0000e-004	2.0000e-005	1.0264
Total		**7.1893**	**7.2000e-004**	**1.5000e-004**	**7.2516**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0653	1.1200e-003	0.0969	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	0.1577	0.1577	1.5000e-004	0.0000	0.1615
Unmitigated	1.1902	0.0210	1.4914	2.5300e-003		0.1962	0.1962		0.1962	0.1962	18.6749	5.3562	24.0311	0.0180	1.4100e-003	24.8999

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.6100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0538					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.1249	0.0199	1.3945	2.5300e-003		0.1957	0.1957		0.1957	0.1957	18.6749	5.1985	23.8734	0.0178	1.4100e-003	24.7384
Landscaping	2.9500e-003	1.1200e-003	0.0969	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	0.1577	0.1577	1.5000e-004	0.0000	0.1615
Total	**1.1902**	**0.0210**	**1.4914**	**2.5400e-003**		**0.1962**	**0.1962**		**0.1962**	**0.1962**	**18.6749**	**5.3562**	**24.0311**	**0.0180**	**1.4100e-003**	**24.8999**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.6100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0538					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.9500e-003	1.1200e-003	0.0969	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	0.1577	0.1577	1.5000e-004	0.0000	0.1615
Total	**0.0653**	**1.1200e-003**	**0.0969**	**1.0000e-005**		**5.3000e-004**	**5.3000e-004**		**5.3000e-004**	**5.3000e-004**	**0.0000**	**0.1577**	**0.1577**	**1.5000e-004**	**0.0000**	**0.1615**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.9281	0.0222	5.4000e-004	1.6417
Unmitigated	1.1174	0.0277	6.7000e-004	2.0090

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.781848 / 0.492904	1.0315	0.0256	6.2000e-004	1.8544
Single Family Housing	0.065154 / 0.0410754	0.0860	2.1300e-003	5.0000e-005	0.1545
Total		**1.1174**	**0.0277**	**6.7000e-004**	**2.0090**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.625479 / 0.462837	0.8567	0.0205	4.9000e-004	1.5154
Single Family Housing	0.0521232 / 0.0385698	0.0714	1.7000e-003	4.0000e-005	0.1263
Total		**0.9281**	**0.0222**	**5.3000e-004**	**1.6417**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.3580	0.0803	0.0000	3.3644
Unmitigated	1.3580	0.0803	0.0000	3.3644

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	5.52	1.1205	0.0662	0.0000	2.7760
Single Family Housing	1.17	0.2375	0.0140	0.0000	0.5884
Total		**1.3580**	**0.0803**	**0.0000**	**3.3644**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	5.52	1.1205	0.0662	0.0000	2.7760
Single Family Housing	1.17	0.2375	0.0140	0.0000	0.5884
Total		**1.3580**	**0.0803**	**0.0000**	**3.3644**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Theta Xi_Existing

Yolo/Solano AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	13.00	Dwelling Unit	0.34	8,038.00	38

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	6.8	**Precipitation Freq (Days)**	55
Climate Zone	4			**Operational Year**	2000
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - See CalEEMod Assumptions

Vehicle Trips - See CalEEMod Assumptions

Energy Use - See CalEEMod Assumptions

Mobile Land Use Mitigation -

Table Name	Column Name	Default Value	New Value
tblEnergyUse	NT24E	2,558.55	3,054.10
tblEnergyUse	NT24NG	1,735.98	3,155.00
tblEnergyUse	Refrigerator	691.75	660.00
tblEnergyUse	T24E	282.15	332.81
tblEnergyUse	T24NG	6,872.73	5,484.45
tblLandUse	LandUseSquareFeet	13,000.00	8,038.00
tblLandUse	Population	37.00	38.00
tblVehicleTrips	WD_TR	6.65	5.96

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2000	0.3584	1.3725	0.7109	8.3200e-003	0.4533	0.1058	0.5592	0.0463	0.1058	0.1521	0.0000	76.7041	76.7041	0.0187	0.0000	77.1721
Maximum	**0.3584**	**1.3725**	**0.7109**	**8.3200e-003**	**0.4533**	**0.1058**	**0.5592**	**0.0463**	**0.1058**	**0.1521**	**0.0000**	**76.7041**	**76.7041**	**0.0187**	**0.0000**	**77.1721**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2000	0.3584	1.3725	0.7109	8.3200e-003	5.2400e-003	0.1058	0.1111	1.5800e-003	0.1058	0.1074	0.0000	76.7040	76.7040	0.0187	0.0000	77.1720
Maximum	**0.3584**	**1.3725**	**0.7109**	**8.3200e-003**	**5.2400e-003**	**0.1058**	**0.1111**	**1.5800e-003**	**0.1058**	**0.1074**	**0.0000**	**76.7040**	**76.7040**	**0.0187**	**0.0000**	**77.1720**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**98.84**	**0.00**	**80.14**	**96.59**	**0.00**	**29.40**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-3-2000	9-30-2000	0.8613	0.8613
		Highest	0.8613	0.8613

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2594	0.0226	1.6374	2.7000e-003		0.2099	0.2099		0.2099	0.2099	19.9607	5.7894	25.7501	0.0190	1.5100e-003	26.6772
Energy	6.1000e-004	5.1800e-003	2.2000e-003	3.0000e-005		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004	0.0000	21.6062	21.6062	8.2000e-004	2.6000e-004	21.7030
Mobile	0.1985	0.7026	2.4634	4.5100e-003	4.6497	0.0158	4.6654	0.4755	0.0150	0.4905	0.0000	115.2476	115.2476	0.0183	0.0000	115.7047
Waste						0.0000	0.0000		0.0000	0.0000	1.2139	0.0000	1.2139	0.0717	0.0000	3.0074
Water						0.0000	0.0000		0.0000	0.0000	0.2687	1.8770	2.1457	0.0277	6.7000e-004	3.0372
Total	**1.4585**	**0.7303**	**4.1029**	**7.2400e-003**	**4.6497**	**0.2261**	**4.8757**	**0.4755**	**0.2253**	**0.7008**	**21.4433**	**144.5202**	**165.9635**	**0.1376**	**2.4400e-003**	**170.1296**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2594	0.0226	1.6374	2.7000e-003		0.2099	0.2099		0.2099	0.2099	19.9607	5.7894	25.7501	0.0190	1.5100e-003	26.6772
Energy	6.1000e-004	5.1800e-003	2.2000e-003	3.0000e-005		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004	0.0000	21.6062	21.6062	8.2000e-004	2.6000e-004	21.7030
Mobile	0.1985	0.7026	2.4634	4.5100e-003	4.6497	0.0158	4.6654	0.4755	0.0150	0.4905	0.0000	115.2476	115.2476	0.0183	0.0000	115.7047
Waste						0.0000	0.0000		0.0000	0.0000	1.2139	0.0000	1.2139	0.0717	0.0000	3.0074
Water						0.0000	0.0000		0.0000	0.0000	0.2687	1.8770	2.1457	0.0277	6.7000e-004	3.0372
Total	**1.4585**	**0.7303**	**4.1029**	**7.2400e-003**	**4.6497**	**0.2261**	**4.8757**	**0.4755**	**0.2253**	**0.7008**	**21.4433**	**144.5202**	**165.9635**	**0.1376**	**2.4400e-003**	**170.1296**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/3/2000	7/14/2000	5	10	
2	Site Preparation	Site Preparation	7/15/2000	7/17/2000	5	1	
3	Grading	Grading	7/18/2000	7/19/2000	5	2	
4	Building Construction	Building Construction	7/20/2000	12/6/2000	5	100	
5	Paving	Paving	12/7/2000	12/13/2000	5	5	
6	Architectural Coating	Architectural Coating	12/14/2000	12/20/2000	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 16,277; Residential Outdoor: 5,426; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	9.00	1.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2000

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0183	0.1097	0.0479	6.6000e-004		8.7000e-003	8.7000e-003		8.7000e-003	8.7000e-003	0.0000	5.6973	5.6973	1.4900e-003	0.0000	5.7346
Total	**0.0183**	**0.1097**	**0.0479**	**6.6000e-004**		**8.7000e-003**	**8.7000e-003**		**8.7000e-003**	**8.7000e-003**	**0.0000**	**5.6973**	**5.6973**	**1.4900e-003**	**0.0000**	**5.7346**

3.2 Demolition - 2000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0800e-003	1.3000e-003	0.0111	1.0000e-005	0.0379	2.0000e-005	0.0379	3.8300e-003	1.0000e-005	3.8500e-003	0.0000	0.4112	0.4112	7.0000e-005	0.0000	0.4129
Total	**1.0800e-003**	**1.3000e-003**	**0.0111**	**1.0000e-005**	**0.0379**	**2.0000e-005**	**0.0379**	**3.8300e-003**	**1.0000e-005**	**3.8500e-003**	**0.0000**	**0.4112**	**0.4112**	**7.0000e-005**	**0.0000**	**0.4129**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0183	0.1097	0.0479	6.6000e-004		8.7000e-003	8.7000e-003		8.7000e-003	8.7000e-003	0.0000	5.6973	5.6973	1.4900e-003	0.0000	5.7346
Total	**0.0183**	**0.1097**	**0.0479**	**6.6000e-004**		**8.7000e-003**	**8.7000e-003**		**8.7000e-003**	**8.7000e-003**	**0.0000**	**5.6973**	**5.6973**	**1.4900e-003**	**0.0000**	**5.7346**

3.2 Demolition - 2000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0800e-003	1.3000e-003	0.0111	1.0000e-005	3.5000e-004	2.0000e-005	3.6000e-004	9.0000e-005	1.0000e-005	1.1000e-004	0.0000	0.4112	0.4112	7.0000e-005	0.0000	0.4129
Total	**1.0800e-003**	**1.3000e-003**	**0.0111**	**1.0000e-005**	**3.5000e-004**	**2.0000e-005**	**3.6000e-004**	**9.0000e-005**	**1.0000e-005**	**1.1000e-004**	**0.0000**	**0.4112**	**0.4112**	**7.0000e-005**	**0.0000**	**0.4129**

3.3 Site Preparation - 2000

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2700e-003	9.3600e-003	3.4600e-003	6.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0000	0.5117	0.5117	1.0000e-004	0.0000	0.5143
Total	**1.2700e-003**	**9.3600e-003**	**3.4600e-003**	**6.0000e-005**	**2.7000e-004**	**5.7000e-004**	**8.4000e-004**	**3.0000e-005**	**5.7000e-004**	**6.0000e-004**	**0.0000**	**0.5117**	**0.5117**	**1.0000e-004**	**0.0000**	**0.5143**

3.3 Site Preparation - 2000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	7.0000e-005	5.5000e-004	0.0000	1.8900e-003	0.0000	1.8900e-003	1.9000e-004	0.0000	1.9000e-004	0.0000	0.0206	0.0206	0.0000	0.0000	0.0206
Total	**5.0000e-005**	**7.0000e-005**	**5.5000e-004**	**0.0000**	**1.8900e-003**	**0.0000**	**1.8900e-003**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.0206**	**0.0206**	**0.0000**	**0.0000**	**0.0206**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2700e-003	9.3600e-003	3.4600e-003	6.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0000	0.5117	0.5117	1.0000e-004	0.0000	0.5143
Total	**1.2700e-003**	**9.3600e-003**	**3.4600e-003**	**6.0000e-005**	**2.7000e-004**	**5.7000e-004**	**8.4000e-004**	**3.0000e-005**	**5.7000e-004**	**6.0000e-004**	**0.0000**	**0.5117**	**0.5117**	**1.0000e-004**	**0.0000**	**0.5143**

3.3 Site Preparation - 2000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	7.0000e-005	5.5000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0206	0.0206	0.0000	0.0000	0.0206
Total	**5.0000e-005**	**7.0000e-005**	**5.5000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0206**	**0.0206**	**0.0000**	**0.0000**	**0.0206**

3.4 Grading - 2000

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6700e-003	0.0219	9.5800e-003	1.3000e-004		1.7400e-003	1.7400e-003		1.7400e-003	1.7400e-003	0.0000	1.1395	1.1395	3.0000e-004	0.0000	1.1469
Total	**3.6700e-003**	**0.0219**	**9.5800e-003**	**1.3000e-004**	**7.5000e-004**	**1.7400e-003**	**2.4900e-003**	**4.1000e-004**	**1.7400e-003**	**2.1500e-003**	**0.0000**	**1.1395**	**1.1395**	**3.0000e-004**	**0.0000**	**1.1469**

3.4 Grading - 2000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	2.6000e-004	2.2100e-003	0.0000	7.5700e-003	0.0000	7.5700e-003	7.7000e-004	0.0000	7.7000e-004	0.0000	0.0823	0.0823	1.0000e-005	0.0000	0.0826
Total	**2.2000e-004**	**2.6000e-004**	**2.2100e-003**	**0.0000**	**7.5700e-003**	**0.0000**	**7.5700e-003**	**7.7000e-004**	**0.0000**	**7.7000e-004**	**0.0000**	**0.0823**	**0.0823**	**1.0000e-005**	**0.0000**	**0.0826**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6700e-003	0.0219	9.5800e-003	1.3000e-004		1.7400e-003	1.7400e-003		1.7400e-003	1.7400e-003	0.0000	1.1395	1.1395	3.0000e-004	0.0000	1.1469
Total	**3.6700e-003**	**0.0219**	**9.5800e-003**	**1.3000e-004**	**7.5000e-004**	**1.7400e-003**	**2.4900e-003**	**4.1000e-004**	**1.7400e-003**	**2.1500e-003**	**0.0000**	**1.1395**	**1.1395**	**3.0000e-004**	**0.0000**	**1.1469**

3.4 Grading - 2000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	2.6000e-004	2.2100e-003	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0823	0.0823	1.0000e-005	0.0000	0.0826
Total	**2.2000e-004**	**2.6000e-004**	**2.2100e-003**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0823**	**0.0823**	**1.0000e-005**	**0.0000**	**0.0826**

3.5 Building Construction - 2000

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1846	1.1335	0.4836	6.8700e-003		0.0892	0.0892		0.0892	0.0892	0.0000	60.0010	60.0010	0.0150	0.0000	60.3765
Total	**0.1846**	**1.1335**	**0.4836**	**6.8700e-003**		**0.0892**	**0.0892**		**0.0892**	**0.0892**	**0.0000**	**60.0010**	**60.0010**	**0.0150**	**0.0000**	**60.3765**

3.5 Building Construction - 2000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0300e-003	0.0176	0.0131	1.2000e-004	0.0266	5.4000e-004	0.0271	2.7100e-003	5.1000e-004	3.2200e-003	0.0000	1.3416	1.3416	2.1000e-004	0.0000	1.3467
Worker	9.7400e-003	0.0117	0.0996	6.0000e-005	0.3406	1.4000e-004	0.3408	0.0345	1.3000e-004	0.0346	0.0000	3.7011	3.7011	5.9000e-004	0.0000	3.7159
Total	**0.0118**	**0.0293**	**0.1127**	**1.8000e-004**	**0.3672**	**6.8000e-004**	**0.3678**	**0.0372**	**6.4000e-004**	**0.0379**	**0.0000**	**5.0427**	**5.0427**	**8.0000e-004**	**0.0000**	**5.0626**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1846	1.1335	0.4836	6.8700e-003		0.0892	0.0892		0.0892	0.0892	0.0000	60.0009	60.0009	0.0150	0.0000	60.3764
Total	**0.1846**	**1.1335**	**0.4836**	**6.8700e-003**		**0.0892**	**0.0892**		**0.0892**	**0.0892**	**0.0000**	**60.0009**	**60.0009**	**0.0150**	**0.0000**	**60.3764**

3.5 Building Construction - 2000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0300e-003	0.0176	0.0131	1.2000e-004	3.0000e-004	5.4000e-004	8.4000e-004	9.0000e-005	5.1000e-004	6.0000e-004	0.0000	1.3416	1.3416	2.1000e-004	0.0000	1.3467
Worker	9.7400e-003	0.0117	0.0996	6.0000e-005	3.1400e-003	1.4000e-004	3.2800e-003	8.4000e-004	1.3000e-004	9.6000e-004	0.0000	3.7011	3.7011	5.9000e-004	0.0000	3.7159
Total	**0.0118**	**0.0293**	**0.1127**	**1.8000e-004**	**3.4400e-003**	**6.8000e-004**	**4.1200e-003**	**9.3000e-004**	**6.4000e-004**	**1.5600e-003**	**0.0000**	**5.0427**	**5.0427**	**8.0000e-004**	**0.0000**	**5.0626**

3.6 Paving - 2000

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.4100e-003	0.0531	0.0232	3.3000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003	0.0000	2.7483	2.7483	6.9000e-004	0.0000	2.7654
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.4100e-003**	**0.0531**	**0.0232**	**3.3000e-004**		**3.8600e-003**	**3.8600e-003**		**3.8600e-003**	**3.8600e-003**	**0.0000**	**2.7483**	**2.7483**	**6.9000e-004**	**0.0000**	**2.7654**

3.6 Paving - 2000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	1.1700e-003	9.9600e-003	1.0000e-005	0.0341	1.0000e-005	0.0341	3.4500e-003	1.0000e-005	3.4600e-003	0.0000	0.3701	0.3701	6.0000e-005	0.0000	0.3716
Total	**9.7000e-004**	**1.1700e-003**	**9.9600e-003**	**1.0000e-005**	**0.0341**	**1.0000e-005**	**0.0341**	**3.4500e-003**	**1.0000e-005**	**3.4600e-003**	**0.0000**	**0.3701**	**0.3701**	**6.0000e-005**	**0.0000**	**0.3716**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.4100e-003	0.0531	0.0232	3.3000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003	0.0000	2.7483	2.7483	6.9000e-004	0.0000	2.7654
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.4100e-003**	**0.0531**	**0.0232**	**3.3000e-004**		**3.8600e-003**	**3.8600e-003**		**3.8600e-003**	**3.8600e-003**	**0.0000**	**2.7483**	**2.7483**	**6.9000e-004**	**0.0000**	**2.7654**

3.6 Paving - 2000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	1.1700e-003	9.9600e-003	1.0000e-005	3.1000e-004	1.0000e-005	3.3000e-004	8.0000e-005	1.0000e-005	1.0000e-004	0.0000	0.3701	0.3701	6.0000e-005	0.0000	0.3716
Total	**9.7000e-004**	**1.1700e-003**	**9.9600e-003**	**1.0000e-005**	**3.1000e-004**	**1.0000e-005**	**3.3000e-004**	**8.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**0.3701**	**0.3701**	**6.0000e-005**	**0.0000**	**0.3716**

3.7 Architectural Coating - 2000

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1257					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0127	5.6300e-003	7.0000e-005		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	0.6383	0.6383	1.8000e-004	0.0000	0.6428
Total	**0.1279**	**0.0127**	**5.6300e-003**	**7.0000e-005**		**1.0300e-003**	**1.0300e-003**		**1.0300e-003**	**1.0300e-003**	**0.0000**	**0.6383**	**0.6383**	**1.8000e-004**	**0.0000**	**0.6428**

3.7 Architectural Coating - 2000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	1.3000e-004	1.1100e-003	0.0000	3.7800e-003	0.0000	3.7900e-003	3.8000e-004	0.0000	3.8000e-004	0.0000	0.0411	0.0411	1.0000e-005	0.0000	0.0413
Total	**1.1000e-004**	**1.3000e-004**	**1.1100e-003**	**0.0000**	**3.7800e-003**	**0.0000**	**3.7900e-003**	**3.8000e-004**	**0.0000**	**3.8000e-004**	**0.0000**	**0.0411**	**0.0411**	**1.0000e-005**	**0.0000**	**0.0413**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1257					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0127	5.6300e-003	7.0000e-005		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	0.6383	0.6383	1.8000e-004	0.0000	0.6428
Total	**0.1279**	**0.0127**	**5.6300e-003**	**7.0000e-005**		**1.0300e-003**	**1.0300e-003**		**1.0300e-003**	**1.0300e-003**	**0.0000**	**0.6383**	**0.6383**	**1.8000e-004**	**0.0000**	**0.6428**

3.7 Architectural Coating - 2000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	1.3000e-004	1.1100e-003	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0411	0.0411	1.0000e-005	0.0000	0.0413
Total	**1.1000e-004**	**1.3000e-004**	**1.1100e-003**	**0.0000**	**3.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0411**	**0.0411**	**1.0000e-005**	**0.0000**	**0.0413**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1985	0.7026	2.4634	4.5100e-003	4.6497	0.0158	4.6654	0.4755	0.0150	0.4905	0.0000	115.2476	115.2476	0.0183	0.0000	115.7047
Unmitigated	0.1985	0.7026	2.4634	4.5100e-003	4.6497	0.0158	4.6654	0.4755	0.0150	0.4905	0.0000	115.2476	115.2476	0.0183	0.0000	115.7047

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	77.49	83.07	76.18	204,960	204,960
Total	77.49	83.07	76.18	204,960	204,960

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.490127	0.105989	0.177133	0.099243	0.039602	0.005527	0.027619	0.045141	0.000805	0.001318	0.004134	0.000693	0.002669

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	15.6128	15.6128	7.1000e-004	1.5000e-004	15.6740
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	15.6128	15.6128	7.1000e-004	1.5000e-004	15.6740
NaturalGas Mitigated	6.1000e-004	5.1800e-003	2.2000e-003	3.0000e-005		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004	0.0000	5.9934	5.9934	1.1000e-004	1.1000e-004	6.0291
NaturalGas Unmitigated	6.1000e-004	5.1800e-003	2.2000e-003	3.0000e-005		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004	0.0000	5.9934	5.9934	1.1000e-004	1.1000e-004	6.0291

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	112313	6.1000e-004	5.1800e-003	2.2000e-003	3.0000e-005		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004	0.0000	5.9934	5.9934	1.1000e-004	1.1000e-004	6.0291
Total		**6.1000e-004**	**5.1800e-003**	**2.2000e-003**	**3.0000e-005**		**4.2000e-004**	**4.2000e-004**		**4.2000e-004**	**4.2000e-004**	**0.0000**	**5.9934**	**5.9934**	**1.1000e-004**	**1.1000e-004**	**6.0291**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	112313	6.1000e-004	5.1800e-003	2.2000e-003	3.0000e-005		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004	0.0000	5.9934	5.9934	1.1000e-004	1.1000e-004	6.0291
Total		**6.1000e-004**	**5.1800e-003**	**2.2000e-003**	**3.0000e-005**		**4.2000e-004**	**4.2000e-004**		**4.2000e-004**	**4.2000e-004**	**0.0000**	**5.9934**	**5.9934**	**1.1000e-004**	**1.1000e-004**	**6.0291**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	53668.6	15.6128	7.1000e-004	1.5000e-004	15.6740
Total		**15.6128**	**7.1000e-004**	**1.5000e-004**	**15.6740**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	53668.6	15.6128	7.1000e-004	1.5000e-004	15.6740
Total		**15.6128**	**7.1000e-004**	**1.5000e-004**	**15.6740**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2594	0.0226	1.6374	2.7000e-003		0.2099	0.2099		0.2099	0.2099	19.9607	5.7894	25.7501	0.0190	1.5100e-003	26.6772
Unmitigated	1.2594	0.0226	1.6374	2.7000e-003		0.2099	0.2099		0.2099	0.2099	19.9607	5.7894	25.7501	0.0190	1.5100e-003	26.6772

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0126					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0314					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.2080	0.0213	1.4935	2.7000e-003		0.2094	0.2094		0.2094	0.2094	19.9607	5.6317	25.5924	0.0187	1.5100e-003	26.5101
Landscaping	7.4600e-003	1.2500e-003	0.1439	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	0.1577	0.1577	3.8000e-004	0.0000	0.1671
Total	**1.2594**	**0.0226**	**1.6374**	**2.7100e-003**		**0.2099**	**0.2099**		**0.2099**	**0.2099**	**19.9607**	**5.7894**	**25.7501**	**0.0190**	**1.5100e-003**	**26.6772**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0126					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0314					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.2080	0.0213	1.4935	2.7000e-003		0.2094	0.2094		0.2094	0.2094	19.9607	5.6317	25.5924	0.0187	1.5100e-003	26.5101
Landscaping	7.4600e-003	1.2500e-003	0.1439	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	0.1577	0.1577	3.8000e-004	0.0000	0.1671
Total	**1.2594**	**0.0226**	**1.6374**	**2.7100e-003**		**0.2099**	**0.2099**		**0.2099**	**0.2099**	**19.9607**	**5.7894**	**25.7501**	**0.0190**	**1.5100e-003**	**26.6772**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.1457	0.0277	6.7000e-004	3.0372
Unmitigated	2.1457	0.0277	6.7000e-004	3.0372

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.847002 / 0.53398	2.1457	0.0277	6.7000e-004	3.0372
Total		**2.1457**	**0.0277**	**6.7000e-004**	**3.0372**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.847002 / 0.53398	2.1457	0.0277	6.7000e-004	3.0372
Total		**2.1457**	**0.0277**	**6.7000e-004**	**3.0372**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.2139	0.0717	0.0000	3.0074
Unmitigated	1.2139	0.0717	0.0000	3.0074

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	5.98	1.2139	0.0717	0.0000	3.0074
Total		**1.2139**	**0.0717**	**0.0000**	**3.0074**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	5.98	1.2139	0.0717	0.0000	3.0074
Total		**1.2139**	**0.0717**	**0.0000**	**3.0074**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation