

City of Davis Downtown Davis Specific Plan and Form Based Code

SCH# 2020100103

Draft Environmental Impact Report

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Prepared For:

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1. Executive Summary

This chapter presents an overview of the proposed Downtown Specific Plan and Associated Form-Based Code (Downtown Code) in the City of Davis, located in Downtown Davis, a 32-block area of approximately 132 acres, herein referred to as the “proposed project.” This executive summary also provides conclusions of the analyses contained in Sections 4.1 through 4.14 of this Draft Environmental Impact Report (Draft EIR), a summary of the alternatives to the proposed project, and issues to be resolved. For a complete description of the proposed project, refer to Chapter 3, *Project Description*. For a discussion of alternatives to the proposed project, see Chapter 5, *Alternatives*.

This Draft EIR addresses the environmental effects associated with adoption and implementation of the proposed project. An EIR is a public document designed to provide the public, local, and state governmental agency decision-makers with an analysis of potential environmental consequences to support informed decision-making. The California Environmental Quality Act (CEQA) requires that local government agencies, prior to taking action on projects over which they have discretionary approval authority, consider the environmental consequences of such projects.

This Draft EIR has been prepared pursuant to the requirements of CEQA (California Public Resources Code, Division 13, Section 21000, et seq.) and the State CEQA Guidelines (Title 14 of the California Code of Regulations, Division 6, Chapter 3, Section 15000, et seq.) to determine if the proposed project could have a significant impact on the environment. Information for this Draft EIR was obtained through on-site field observations; discussions with public service agencies; analysis of adopted plans and policies; review of available studies, reports, data, and similar literature in the public domain; and specialized environmental assessments (e.g., air quality, greenhouse gas emissions, noise, and transportation). The City of Davis as the Lead Agency has reviewed and revised as necessary all submitted draft plans, technical studies, and reports to reflect its own independent judgement including relying on applicable City of Davis technical personnel and consultants and review of all technical reports.

1.1 ENVIRONMENTAL PROCEDURES

This Draft EIR has been prepared to assess the environmental effects associated with implementation of the proposed project. The six main objectives of this document as established by CEQA are:

- To disclose to decision-makers and the public the significant environmental effects of proposed activities.
- To identify ways to avoid or reduce environmental impacts.
- To prevent environmental impacts through implementation of feasible alternatives or mitigation measures.

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- To disclose significant environmental effects.
- To foster interagency coordination in the review of projects.
- To enhance public participation in the planning process.

An EIR is the most comprehensive form of environmental documentation identified in the CEQA statute and in the CEQA Guidelines. It provides the information needed to assess the environmental consequences of a proposed project, to the extent feasible. EIRs are intended to provide an objective, factually supported, full-disclosure analysis of any environmental consequences associated with a proposed project which may have the potential to result in significant, adverse environmental impacts. An EIR is also one of various decision-making tools used by a lead agency to consider the merits and disadvantages of a project that is subject to its discretionary authority. Prior to approving a proposed project, the lead agency must consider the information contained in the EIR, determine whether the EIR was properly prepared in accordance with CEQA and the CEQA Guidelines, determine that it reflects the independent judgement of the lead agency, adopt findings concerning the proposed project's significant environmental impacts and alternatives, and if needed, adopt a Statement of Overriding Considerations if the proposed project would result in significant impacts that cannot be avoided.

1.1.1 EIR ORGANIZATION

This Draft EIR is organized into the following chapters:

- **Chapter 1: Executive Summary.** Summarizes the environmental consequences that would result from implementation of the proposed project, describes recommended mitigation measures, and indicates the level of significance of environmental impacts before and after mitigation.
- **Chapter 2: Introduction.** Provides an overview describing the Draft EIR document.
- **Chapter 3: Project Description.** Describes the proposed project in detail, including the characteristics, objectives, and the structural and technical elements of the proposed action.
- **Chapter 4: Environmental Analysis.** Organized into 14 sections corresponding to the environmental resource categories identified in Appendix G of the CEQA Guidelines, this section provides a description of the physical environmental conditions in the vicinity of the proposed project as they existed at the time of the Notice of Preparation was published, from both a local and regional perspective. Additionally, this chapter provides an analysis of the potential environmental impacts of the proposed project, and recommended mitigation measures, if required, to reduce the impacts to less than significant where possible, and to reduce their magnitude or significance when impacts cannot be reduced to a less-than-significant level. The environmental setting included in each section provides baseline physical conditions, which provide a context, which lead agencies use to determine the significance of environmental impacts resulting from the proposed project. Each section also includes a description of the thresholds used to determine if a significant impact would occur; the methodology to identify and evaluate the potential impacts of the proposed project; and the potential cumulative impacts associated with the proposed project.

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- **Chapter 5: Alternatives.** Consider alternatives to the proposed project, including the CEQA-required “No Project” Alternative.
- **Chapter 6: CEQA-Mandated Sections.** Discusses growth inducement, cumulative impacts, unavoidable significant effects, and significant irreversible changes as a result of the proposed project.
- **Chapter 7: Organizations and Persons Consulted.** Lists the people and organizations that were contacted during the preparation of this EIR for the proposed project.
- **Appendices:** The appendices for this document (presented in PDF format on a thumb drive (USB) attached to the back cover) contain the following supporting documents:
 - Appendix 2-1: Notice of Preparation (NOP) and NOP Comment Letters
 - Appendix 3-1: Guiding Policies and Associated Implementing Actions in the Specific Plan
 - Appendix 4.2-1: Criteria Air Pollutant Emissions Modeling for the Project
 - Appendix 4.8-1: Water Supply Assessment
 - Appendix 4.10: Noise Data
 - Appendix 4.13-1: Transportation Impact Study
 - Appendix 4.14-1: Hydraulic Modeling Analysis

1.1.2 TYPE AND PURPOSE OF THIS DEIR

According to Section 15121(a) of the CEQA Guidelines, the purpose of an EIR is to:

Inform public agency decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.

This Draft EIR has been prepared in accordance with the California Environmental Quality Act (CEQA) with the City of Davis as the Lead Agency. This Draft EIR assesses the potential environmental consequences of implementing the proposed project, and identifies Mitigation Measures and Alternatives to the proposed project that would avoid or reduce significant impacts. This Draft EIR is intended to inform decision-makers, other responsible agencies, and the general public as to the nature of the proposed project’s potential environmental impacts.

1.2 PROJECT LOCATION

The Specific Plan Area is located in Downtown Davis and covers a 32-block area of approximately 132 acres. The Specific Plan Area includes the established residential University Avenue-Rice Lane neighborhood and is surrounded by the established neighborhoods of Old North and Old East Davis. The boundary of the Specific Plan Area extends beyond that of the previous Core Area Specific Plan and includes the Davis Commons site and the Amtrak Station.

The City of Davis is in the Sacramento Valley, 50 miles north-east of San Francisco and 15 miles west of Sacramento; Davis is located in the southeast corner of Yolo County.

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1.3 PROJECT SUMMARY

The proposed Specific Plan provides a strategy to achieve the underlying community goal of sustainability through safe multi-modal transportation, public access, adaptability to the future, and through a form-based development approach that preserves the existing fabric of Downtown Davis. Once adopted, the Specific Plan would serve as the overarching policy document that guides long term development and infrastructure within Downtown Davis.

The primary purposes of the proposed project are to replace the outdated Core Area Specific Plan (CASP), to extend the buildout horizon in the Specific Plan Area to year 2040, and to update guiding policies and implementing actions and zoning so that they meet current State requirements and community priorities. The proposed project will become the new guide to long term development and infrastructure for Downtown Davis. It evaluates and addresses existing development policies, codes, and guidelines, addresses recurring challenges to the development process, and will enhance the quality of life in Davis. The proposed Specific Plan includes six overarching goals which serve as a framework for guiding policies and implementing actions which would facilitate anticipated growth in the Specific Plan Area. The goals, which serve as the project objectives for the EIR, are as follows:

- Facilitate a carbon neutral, equitably accessible, water efficient, zero waste, resilient community by 2040.
- Create a compact, mixed-use community, designed to support active modes of transportation and sustainability.
- Establish a development hierarchy to promote non-vehicular travel and create a strong sense of place.
- Consolidate regulatory processes for consistency, predictability, and to provide a comprehensive plan for development, infrastructure, and streamlined environmental analysis.
- Develop complete streets that improve access to transit and non-vehicular modes of transit, increase bicycle and pedestrian safety, and reduce dependence on vehicles and VMT.
- Encourage residents to use Downtown instead of driving across town or to nearby cities for jobs, experiences, dining, and shopping.
- Provide a variety of housing options at all levels of affordability near opportunities, jobs, facilities, services, and destinations where most daily needs can be met without a car.
- Find creative ways to reuse vacant and underutilized retail and commercial space Downtown.
- Create a sense of place that balances new development with historic character.
- Create public spaces are green, active, inclusive, and support the health of the public and the environment.

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1.4 ISSUES TO BE RESOLVED

Section 15123(b)(3) of CEQA Guidelines requires that an EIR identify issues to be resolved, including whether or how to mitigate potentially significant impacts and the choice among alternatives. With regard to the proposed project, the major issues to be resolved include decisions by the City of Davis, as Lead Agency, related to:

- Whether this Draft EIR adequately describes the environmental impacts of the proposed project.
- Whether the proposed land use changes are compatible with the character of the existing area.
- Whether the identified mitigation measures should be adopted or modified.
- Whether there are other mitigation measures that should be applied to the proposed project besides those mitigation measures identified in the Draft EIR.
- Whether there are any alternatives to the proposed project that would substantially lessen any of the significant impacts of the proposed project and achieve most of the basic objectives.

1.5 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Under CEQA, a significant impact on the environment is defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the proposed project. Table 1-1, *Summary of Impacts and Mitigation Measures*, summarizes the conclusions of the environmental analysis contained in this Draft EIR and presents a summary of impacts and mitigations identified.

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
4.1 AESTHETICS			
AES-1: Implementation of the proposed project would not have a substantial adverse effect on a scenic vista.	No Impact	No mitigation measures are required	No Impact
AES-2: Implementation of the proposed project could damage scenic resources related to historic buildings.	Potentially Significant	There are no feasible mitigation measures	Significant and Unavoidable
AES-3: Implementation of the proposed project in an urbanized area could conflict with applicable zoning and other regulations governing scenic quality.	Less Than Significant	No mitigation measures are required	Less Than Significant
AES-4: Implementation of the proposed project would not expose people on- or off-site to substantial light or glare which would adversely affect day or nighttime views in the area.	Potentially Significant	Mitigation Measure AES-4: In order to reduce the potential for glare from buildings and structures within the project area, the Improvement Plans developed for future projects shall show that the use of reflective building materials that have the potential to result in substantial glare shall be prohibited. The City of Davis Department of Community Development and Sustainability shall ensure that the approved project uses appropriate building materials with low reflectivity to minimize potential glare nuisance to off- site receptors.	Less Than Significant
AES-5: Implementation of the proposed project would not result in a cumulatively considerable impact to aesthetic resources.	Less Than Significant	No mitigation measures are required	Less Than Significant
4.2 AIR QUALITY			
AQ-1: Implementation of the Downtown Davis Specific Plan would exceed the regional significance thresholds and conflict with or obstruct implementation of the applicable air quality plan.	Potentially Significant	There are no feasible mitigation measures	Significant and Unavoidable
AQ-2: Construction and operation of the proposed project would 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.	Potentially Significant	Mitigation Measure AQ-2.1: Prior to discretionary approval by the City of Davis for development projects subject to CEQA (California Environmental Quality Act) review (i.e., non-exempt projects), project applicants shall prepare and submit a technical assessment evaluating potential project construction-related air quality impacts to the City of Davis for review and approval. The evaluation shall be prepared in conformance with Yolo-Solano Air Quality Management District (Yolo-Solano AQMD) methodology (e.g., Yolo-Solano AQMD Handbook for Assessing and Mitigating Air Quality Impacts) for assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the Yolo-Solano AQMD's adopted thresholds of significance, the City of Davis shall require that the applicants incorporate mitigation measures to reduce air pollutant emissions during construction activities. These identified measures shall be incorporated into appropriate	Significant and Unavoidable

EXECUTIVE SUMMARY

TABLE 1-1 **SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City. Mitigation measures to reduce construction-related emissions could include, but are not limited to: ▪ Require the Yolo-Solano AQMD best management practices for fugitive-dust control: ○ Water all active construction sites at least twice daily. Frequency should be based on the type of operation, soil, and wind exposure. ○ Haul trucks shall maintain at least two feet of freeboard. ○ Cover all trucks hauling dirt, sand, or loose materials. ○ Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydroseed area. ○ Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days). ○ Plant tree windbreaks on the windward perimeter of construction projects if adjacent to open land. ○ Plant vegetative ground cover in disturbed areas as soon as possible. ○ Cover inactive storage piles. ○ Sweep streets if visible soil material is carried out from the construction site. ○ Treat accesses to a distance of 100 feet from the paved road with a 6-to-12-inch layer of wood chips or mulch. ○ Treat accesses to a distance of 100 feet from the paved road with a 6-inch layer of gravel. ▪ Use construction equipment rated by the United States Environmental Protection Agency as having Tier 4 (model year 2008 or newer) emission limits, applicable for engines between 50 and 750 horsepower. ▪ Ensure that construction equipment is properly serviced and maintained to the manufacturer's standards. ▪ Limit nonessential idling of construction equipment to no more than five consecutive minutes. ▪ Limit on-site vehicle travel speeds on unpaved roads to 15 miles per hour. ▪ Install wheel washers for all exiting trucks or wash off all trucks and equipment leaving the project area.	

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
AQ-3: Construction activities associated with implementation of the Downtown Davis Specific Plan would expose sensitive receptors to substantial criteria air pollutant concentrations.	Potentially Significant	Mitigation Measure AQ-3: Implement Mitigation Measure AQ-2.1	Significant and Unavoidable
AQ-4: Implementation of the Downtown Davis Result in other emissions (such as those leading odors) would not adversely affect a substantial number of people.	Less Than Significant	No mitigation measures are required	Less Than Significant
AQ-5: Implementation of the Downtown Davis Specific Plan would exceed the applicable Yolo-Solano significance thresholds and result in cumulative considerable air quality impacts.	Potentially Significant	Mitigation Measure AQ-5.1: Implement Mitigation Measure AQ-2.1	Significant and Unavoidable
4.3 BIOLOGICAL RESOURCES			
BIO-1: Implementation of the proposed project could have direct substantial adverse effect on any species identified as candidate, sensitive, or special status through habitat modification.	Potentially Significant	Mitigation Measure BIO-1: If clearing and/or construction activities would occur during the migratory bird nesting season (March 15–August 15), preconstruction surveys to identify active bird nests shall be conducted by a qualified biologist within 14 days of construction initiation on specific project sites. Focused surveys must be performed by a qualified biologist for the purpose of determining the presence/absence of active nest sites within the proposed impact area and a 200-foot buffer (if accessible). Surveys shall be repeated if construction activities are delayed or postponed for more than 30 days. If active nest sites are identified within 200 feet of project activities, project applicants shall impose a 100-foot setback for all active nest sites prior to commencement of any project construction activities to avoid construction or access-related disturbances to bird nesting activities. Project-related activities (i.e., vegetation removal, earth moving, and construction) shall not occur within setbacks until the nest is deemed inactive. Activities permitted within and the size (i.e., 100 feet) of setbacks may be adjusted through consultation with the CDFW and/or the City. Should a project within the Specific Plan Area qualify as a covered activity under the Yolo HCP/NCCP, the project applicant shall prepare and submit an HCP/NCCP application package including all applicable Avoidance and Minimization Measures recommended in the HCP/NCCP. Mitigation Measure BIO-2: If the project requires tree trimming or removal, and/or building demolition, the project applicant shall provide preconstruction	Less Than Significant

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TABLE 1-1 **SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		surveys to identify roosting bats conducted within 14 days prior to project initiation on specific project sites. Focused surveys must be performed by a qualified wildlife biologist for the purpose of determining the presence/absence of roosting bats within the proposed impact area. Surveys shall be repeated if construction activities are delayed or postponed for more than 30 days. If roosting bats are discovered during the surveys, the following would be implemented to avoid impacts to bat species: a) The pruning or removal of living trees or snags or the demolition of buildings should not occur during the maternity season between April 1 and September 1 to minimize the disturbance of young that may be present and unable to fly. b) During the non-maternity season, bats roosting in buildings must be passively excluded within 48 hours of building demolition or disturbance. c) The pruning or removal of living trees or snags must occur between the hours of 12 p.m. and sunset on days after nights when low temperatures were 50o or warmer to minimize impacting bats that may be present in deep torpor. d) When it is necessary to perform crown reduction on trees over 12 inches in diameter breast height or remove entire trees or branches over 6 inches in diameter, there shall be preliminary pruning of small branches less than 2 inches in diameter performed the day before. The purpose of this is to minimize the probability that bats would choose to roost in those trees the night before the work is performed. e) If it is not possible to implement Measures c and/or d, then a qualified wildlife biologist will be required to conduct tree cavity surveys and humanely and passively evict roosting bats within 24 hours of vegetation management activities. Measure a, i.e., avoidance of maternity season, is critical as young bats that are not able to fly cannot be humanely evicted.	
BIO-2: Implementation of the proposed project would not have an adverse effect on riparian habitat or other sensitive natural communities.	Less Than Significant	No mitigation measures are required	Less Than Significant
BIO-3: Implementation of the proposed project would not have an adverse effect on state or federally protected wetlands.	No Impact	No mitigation measures are required	No Impact

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
BIO-4: Implementation of the proposed project would not interfere substantially with the movement of native resident or migratory wildlife species or migratory corridors.	Less Than Significant	No mitigation measures are required	Less Than Significant
BIO-5: Implementation of the proposed project would not conflict with local policies or ordinances pertaining to tree preservation.	Less Than Significant	No mitigation measures are required	Less Than Significant
BIO-6: Implementation of the proposed project would not conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other habitat conservation plans.	Less Than Significant	No mitigation measures are required	Less Than Significant
BIO-7: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to biological resources.	Less Than Significant	No mitigation measures are required	Less Than Significant
4.4 CULTURAL RESOURCES			
CUL-1: Implementation of the proposed project could cause a substantial adverse change to historic resources.	Potentially Significant	Mitigation Measure CUL-1 Site-Specific Evaluations: In order to identify potential historical resources on adjacent properties, the project applicant shall complete site-specific evaluations for buildings that are at least 50 years old on adjacent properties at the time that the individual project application is submitted, if evaluations of the sites do not already exist. The project applicant shall complete a site-specific historic resources study performed by a qualified architectural historian meeting the Secretary of the Interior's Standards for Architecture or Architectural History. At a minimum, the evaluation shall consist of a records search, an intensive-level pedestrian field survey, an evaluation of significance using standard National Register Historic Preservation and California Register Historic Preservation evaluation criteria, and recordation of all identified historic buildings and structures on California Department of Parks and Recreation 523 Site Record forms, and shall be submitted to the City of Davis for review and acceptance. If it is determined that a site meets the eligibility criteria for designation, the City may consider designation in accordance with its Historic Resources Management Ordinance.	Significant and Unavoidable
CUL-2: Implementation of the proposed project would not have an adverse change in the significance of an archaeological resource pursuant to Section 15064.5.0	Less Than Significant	Mitigation Measure CUL-2: The City shall require the applicant/contractor to provide a cultural resources and tribal cultural resources sensitivity and awareness training program (Worker Environmental Awareness Program [WEAP]) for all personnel involved in project construction, including field consultants and construction workers. The WEAP will be developed in	Less Than Significant

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		coordination with an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archeology, as well as culturally affiliated Native American tribes. The City may invite Native American representatives from interested culturally affiliated Native American tribes to participate. The WEAP shall be conducted before any project-related construction activities begin in the project area. The WEAP will include relevant information regarding sensitive cultural resources and tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The WEAP will also describe appropriate avoidance and impact minimization measures for cultural resources and tribal cultural resources that could be located at the project site and will outline what to do and who to contact if any potential cultural resources or tribal cultural resources are encountered. The WEAP will emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American tribal values. Mitigation Measure CUL-3: In the event that any prehistoric or historic-era subsurface archaeological features or deposits are discovered during construction, all ground-disturbing activity within 100 feet of the resources shall be halted and a qualified professional archaeologist shall be retained to assess the significance of the find. If the find is determined to be significant by the qualified archaeologist (i.e., because it is determined to constitute either an historical resource or a unique archaeological resource), the archaeologist shall develop appropriate procedures to protect the integrity of the resource and ensure that no additional resources are affected. Procedures could include but would not necessarily be limited to preservation in place, archival research, subsurface testing, or contiguous block-unit excavation and data recovery. If the archaeologist determines that some or all of the affected property qualifies as a Native American Cultural Place, including a Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine (Public Resources Code §5097.9) or a Native American historic, cultural, or sacred site, that is listed or may be eligible for listing in the California Register of Historical Resources pursuant to Public Resources Code §5024.1, including any historic or prehistoric ruins, any burial ground, any archaeological	

EXECUTIVE SUMMARY

TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		or historic site (Public Resources Code §5097.993), the archaeologist shall recommend to the applicant potentially feasible procedures that would preserve the integrity of the site or minimize impacts on it.	
CUL-3: Implementation of the proposed project would not disturb any human remains, including those interred outside of dedicated cemeteries.	Less Than Significant	No mitigation measures are required	Less Than Significant
CUL-4: Implementation of the proposed project could have a cumulatively considerable impact.	Potentially Significant	Implement Mitigation Measures CUL-1, CUL-2, and CUL-3.	Significant and Unavoidable
4.5 ENERGY			
EN-1: Implementation of the proposed project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.	Less Than Significant	No mitigation measures are required	Less Than Significant
EN-2: Implementation of the proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	Less Than Significant	No mitigation measures are required	Less Than Significant
EN-3: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to energy conservation and renewable energy.	Less Than Significant	No mitigation measures are required	Less Than Significant
4.6 GREENHOUSE GAS EMISSIONS			
GHG-1: Implementation of the Downtown Davis Specific Plan could generate a net increase in GHG emissions that would have a significant impact on the environment	Potentially Significant	There are no feasible mitigation measures	Significant and unavoidable
GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less Than Significant	No mitigation measures are required	Less Than Significant
GHG-3: Implementation of the Downtown Davis Specific Plan could result in cumulatively considerable GHG emissions impacts	Potentially Significant	There are no feasible mitigation measures	Significant and unavoidable
4.7 HAZARDS AND HAZARDOUS RESOURCES			
HAZ-1: Implementation of the proposed project would not create a significant hazard to the public or the	Less Than Significant	No mitigation measures are required	Less Than Significant

EXECUTIVE SUMMARY

TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
environment through the routine transport, use, or disposal of hazardous materials.			
HAZ-2: Implementation of the proposed project would not 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.	Less Than Significant	No mitigation measures are required	Less Than Significant
HAZ-3: Implementation of the proposed project would not emit hazardous emissions or handle hazardous materials, substances, or waste within ¼-mile of an existing or proposed school.	Less Than Significant	No mitigation measures are required	Less Than Significant
HAZ-4: Implementation of the proposed project would not be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.	Potentially Significant	Mitigation Measure HAZ-1: Prior to issuance of grading permits on a site that is included on a list of hazardous material sites, soils samples shall be taken on-site to determine the location of any contaminated soils on the site with concentrations above worker safety thresholds established by the Regional Water Quality Control Board (RWQCB). Once a soil sampling analysis is complete, a report of the findings shall be provided to the City of Davis for review and approval. ▪ Any soils with residual chemicals exceeding the RWQCB Environmental Screening Levels (ESLs) for commercial uses or hazardous waste limits would be characterized, removed, and disposed of off-site at a licensed hazardous materials disposal site. ▪ Measures shall be printed on all construction documents, contracts, and project plans prior to issuance of grading permits. Mitigation Measure HAZ-2: If contaminated soils are found in concentrations above established thresholds, a Site Management Plan (SMP) shall be prepared and implemented (as outlined below) and any contaminated soils found in concentrations above established thresholds shall be removed and disposed of according to California Hazardous Waste Regulations. The SMP shall be prepared by a qualified hazardous materials consultant and provided to the City of Davis. The SMP shall include: a. Management practices for handling contaminated soil or other materials if encountered during construction or cleanup activities and measures to minimize dust generation, stormwater runoff, and tracking of soil off-site. b. Preliminary Remediation Goals (PRGs) for environmental contaminants of concern to evaluate the site conditions following SMP implementation.	Less Than Significant

EXECUTIVE SUMMARY

TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		c. A Health and Safety Plan (HSP) for each contractor working at the site that addresses the safety and health hazards of each phase of site operations that includes the requirements and procedures for employee protection. The HSP will also outline proper soil handling procedures and health and safety requirements to minimize worker and public exposure to hazardous materials during construction. d. Cleanup and remediation activities on the site prior to building construction shall be conducted in accordance with the SMP. e. The SMP shall be prepared and submitted to the City of Davis for review and approval prior to issuance of grading permits and commencement of cleanup activities. The approved SMP shall detail procedures and protocols for management of soil containing environmental contaminants during site development activities. f. All measures shall be printed on all construction documents, contracts, and project plans prior to issuance of grading permits. g. A No Further Action letter (or equivalent assurance) shall be provided to the City of Davis prior to issuance of any grading permit for the proposed project.	
HAZ-5: Implementation of the proposed project would not be located within 2 miles of an existing airport land use plan, public airport, or public use airport.	No Impact	No mitigation measures are required	No Impact
HAZ-6: Implementation of the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less Than Significant	No mitigation measures are required	Less Than Significant
HAZ-7: Implementation of the proposed project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	No Impact	No mitigation measures are required	No Impact
HAZ-8: Implementation of the proposed project would result in less-than-significant cumulative impacts with respect to hazards and hazardous materials.	Less Than Significant	No mitigation measures are required	Less Than Significant
4.8 HYDROLOGY AND WATER QUALITY			
HYD-1: Implementation of the proposed project would not violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	Less Than Significant	No mitigation measures are required	Less Than Significant

EXECUTIVE SUMMARY

TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
HYD-2: Implementation of the proposed project would result in an increase in water demand but would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed project may impede sustainable groundwater management of the basin.	Less Than Significant	No mitigation measures are required	Less Than Significant
HYD-3: The proposed project would not substantially alter the existing drainage pattern of the Specific Plan Area which would result in substantial erosion or siltation, increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, create or contribute to runoff which would exceed the capacity of existing or planned stormwater drainage systems, or impede flood flows.	Less Than Significant	No mitigation measures are required	Less Than Significant
HYD-4: The proposed project would not, in a flood hazard, tsunami, or seiche zones, risk release pollutants due to project inundation.	No Impact	No mitigation measures are required	No Impact
HYD-5: The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Less Than Significant	No mitigation measures are required	Less Than Significant
HYD-6: The proposed project would not result in cumulatively considerable impacts to hydrology and water quality.	Less Than Significant	No mitigation measures are required	Less Than Significant
4.9 LAND USE AND PLANNING			
LU-1: Implementation of the proposed project would not physically divide an established community.	Less Than Significant	No mitigation measures are required	Less Than Significant
LU-2: Implementation of the proposed project would not cause a significant environmental impact due to a conflict with any land use plan policy, or regulation for the purpose of avoiding or mitigating an environmental effect.	Less Than Significant	No mitigation measures are required	Less Than Significant
LU-3: Implementation of the proposed project would not result in a cumulatively considerable impact to land use and planning.	No Impact	No mitigation measures are required	No Impact

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TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
4.10 NOISE			
NOI-1: Implementation of the proposed project could result in the generation of a substantial temporary increase in ambient noise levels in the vicinity of the Specific Plan Area in excess of standards established in the local noise ordinance during construction or operational activities.	Potentially Significant	Mitigation Measure NOI-1: Prior to issuance of demolition, grading and/or building permits, the project applicant shall incorporate the following practices into the construction contract agreement to be implemented by the construction contractor during the entire construction phase: - During the entire active construction period, equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds), wherever feasible. - Require the contractor to use impact tools (e.g., jack hammers and hoe rams) that are hydraulically or electrically powered wherever possible. Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used along with external noise jackets on the tools. - Stationary equipment such as generators and air compressors shall be located as far as feasible from nearby noise-sensitive uses. - Stockpiling shall be located as far as feasible from nearby noise-sensitive receptors. - Construction traffic shall be limited—to the extent feasible—to haul routes approved by the City. - At least 10 days prior to the start of construction activities, a sign shall be posted at the entrance(s) to the job site, clearly visible to the public, that includes permitted construction days and hours, as well as the telephone numbers of the City's and contractor's authorized representatives that are assigned to respond in the event of a noise or vibration complaint. If the authorized contractor's representative receives a complaint, he/she shall investigate, take appropriate corrective action, and report the action to the City. - Signs shall be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment shall be turned off if not in use for more than 5 minutes.	Significant and Unavoidable

EXECUTIVE SUMMARY

TABLE 1-1 **SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		- During the entire active construction period, to the extent feasible, the use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. The construction manager shall use smart back-up alarms, which automatically adjust the alarm level based on the background noise level, or switch off back-up alarms and replace with human spotters in compliance with all safety requirements and laws. - Erect temporary noise barriers, where feasible, when construction noise is predicted to exceed the City noise standards and when the anticipated construction duration is greater than is typical (e.g., two years or greater). Mitigation Measure NOI-2: Prior to issuance of demolition, grading and/or building permits, the project applicant shall submit a construction impact management plan including a project development schedule and “good neighbor” information for review and approval by the Community Development and Public Works Departments. The project applicant shall incorporate the plan into the construction contract agreement to be implemented by the construction contractor during construction and shall include, but is not limited to, the following measures Public notice requirements for periods of significant impacts (noise/vibration/street or parking lot closures, etc.), special street posting, construction vehicle parking plan, phone listing for community concerns, names of persons who can be contacted to correct problems, hours of construction activity, noise limits, dust control measures, and security fencing and temporary walkways.	
NOI-2: Implementation of the proposed project could result in generation of excessive ground borne vibration or ground borne noise levels.	Potentially Significant	Mitigation Measure NOI-3: Prior to issuance of a building permit for a project requiring pile driving during construction within 135 feet of fragile structures such as historical resources, 100 feet of non-engineered timber and masonry buildings (e.g., most residential buildings), or within 75 feet of engineered concrete and masonry (no plaster); or a vibratory roller within 25 feet of any structure, the project applicant shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. This noise and vibration analysis shall be conducted by a qualified acoustical consultant or engineer. The vibration levels shall not exceed Federal Transit Administration (FTA) architectural damage thresholds (e.g., 0.12 in/sec PPV for fragile or historical resources, 0.2 in/sec PPV for non-engineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and	Less Than Significant

EXECUTIVE SUMMARY

TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		masonry). If vibration levels would exceed this threshold, alternative uses such as static rollers and drilling piles as opposed to pile driving shall be used.	
NOI-3: Implementation of the proposed project would not expose people residing or working in the Plan Area to excessive aircraft noise levels.	No Impact	No mitigation measures are required	No Impact
NOI-4: Implementation of the proposed project could result in a cumulatively considerable construction noise impact.	Potentially Significant	Mitigation Measure NOI-4: Implement Mitigation Measure NOI-1 and Mitigation Measure NOI-2.	Significant and Unavoidable
4.11 POPULATION AND HOUSING			
PH-1: Implementation of the proposed project would not induce substantial unplanned population growth in the Specific Plan Area, either directly or indirectly.	Less Than Significant	No mitigation measures are required	Less Than Significant
PH-2: Implementation of the proposed project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.	Less Than Significant	No mitigation measures are required	Less Than Significant
PH-3: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to population and housing.	Less Than Significant	No mitigation measures are required	Less Than Significant
4.12 PUBLIC SERVICES & RECREATION			
PS-1: The project would not result in the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives.	Less Than Significant	No mitigation measures are required	Less Than Significant
PS-2: The project, in combination with past, present and reasonably foreseeable projects, would not result in cumulative impacts with respect to fire protection services.	Less Than Significant	No mitigation measures are required	Less Than Significant
PS-3: The project would not result in the need for new or physically altered police facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.	Less Than Significant	No mitigation measures are required	Less Than Significant

EXECUTIVE SUMMARY

TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
PS-4: The project, in combination with past, present and reasonably foreseeable projects, would not result in cumulative impacts with respect to police services.	Less Than Significant	No mitigation measures are required	Less Than Significant
PS-5: The project would not result in the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.	Less Than Significant	No mitigation measures are required	Less Than Significant
PS-6: The project would not result in cumulative impacts with respect to school services.	Less Than Significant	No mitigation measures are required	Less Than Significant
PS-7: The project would not result in the need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.	Less Than Significant	No mitigation measures are required	Less Than Significant
PS-8: The project would result in less-than-significant cumulative impacts with respect to the construction of library facilities.	Less Than Significant	No mitigation measures are required	Less Than Significant
PS-9: The project would not 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.	Less Than Significant	No mitigation measures are required	Less Than Significant
PS-10: The project would not result in the need for new or physically altered park facilities or other recreational facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.	Less Than Significant	No mitigation measures are required	Less Than Significant
PS-11: The project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to parks.	Less Than Significant	No mitigation measures are required	Less Than Significant
4.13 TRANSPORTATION			
TRAF-1: Implementation of the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	Less Than Significant	No mitigation measures are required	Less Than Significant

EXECUTIVE SUMMARY

TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
TRAF-2: Implementation of the proposed project would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).	Less Than Significant	No mitigation measures are required	Less Than Significant
TRAF-3: Implementation of the proposed project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), or result in inadequate emergency access.	Less Than Significant	No mitigation measures are required	Less Than Significant
TRAF-4: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in additional cumulatively considerable impacts.	Less Than Significant	No mitigation measures are required	Less Than Significant
4.14 UTILITIES AND SERVICE SYSTEMS			
UTIL-1: Implementation of the proposed project would not require or result in the construction of new water facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-2: Implementation of the proposed project would result in sufficient water supplies available to serve the proposed project and reasonably foreseeable future during normal, dry, and multiple dry years.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-3: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to water service.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-4: Implementation of the proposed project would not result in the construction of new wastewater treatment facilities.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-5: Implementation of the proposed project would not result in the determination by the wastewater treatment provider that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	Less Than Significant	No mitigation measures are required	Less Than Significant

EXECUTIVE SUMMARY

TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
UTIL-6: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects would result in less-than-significant cumulative impacts with respect to wastewater service.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-7: Implementation of the proposed project would result in the Specific Plan Area being served by a landfill with sufficient permitted capacity to accommodate the proposed project's solid waste disposal needs.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-8: Implementation of the proposed project would comply with federal, state, and local statutes and regulations related to solid waste.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-9: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable development, would not result in significant impacts with respect to solid waste.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-10: Implementation of the proposed project could require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-11: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to stormwater infrastructure.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-12: Implementation of the proposed project would not result in a substantial increase in electrical service demands and would not require new energy supply facilities and transmission infrastructure or capacity enhancing alterations to existing facilities.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-13: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts related to energy supply facilities and transmission infrastructure.	Less Than Significant	No mitigation measures are required	Less Than Significant

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2. Introduction

This Draft Environmental Impact Report (Draft EIR) has been prepared in accordance with the California Environmental Quality Act (CEQA) with the City of Davis as the Lead Agency. This Draft EIR assesses the potential environmental consequences of implementing the Downtown Davis Specific Plan and Associated Form-Based Code (Downtown Code) (hereby referred to collectively as the “proposed project”), and identifies mitigation measures and alternatives to the proposed project that would avoid or reduce significant impacts. This Draft EIR is intended to inform decision-makers, responsible agencies, and the general public about the nature of the proposed project’s environmental impacts.

2.1 PROPOSED PROJECT

Pursuant to State CEQA Guidelines Section 15063, the City of Davis determined that the proposed project could result in potentially significant environmental impacts and that an EIR would be required. The proposed Specific Plan provides a strategy to achieve the underlying community goal of sustainability through safe multi-modal transportation, public access, adaptability to the future, and through a form-based development approach that preserves the existing fabric of Downtown Davis. Once adopted, the Specific Plan would serve as the overarching policy document that guides long term development and infrastructure within Downtown Davis. For a more detailed analysis of the proposed project components, refer to Chapter 3, *Project Description*, of this Draft EIR.

2.2 EIR SCOPE

This is a Program EIR that examines the potential environmental impacts of the proposed Downtown Davis Specific Plan and Form-Based Code. This DEIR also addresses various actions by the City to adopt and implement the Plan. This EIR serves as a Program EIR under CEQA Guidelines section 15168. According to CEQA Guidelines 15168(b), use of a program EIR can provide advantages, including:

- (1) Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action,
- (2) Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis,
- (3) Avoid duplicative reconsideration of basic policy considerations,
- (4) Allow the Lead Agency to consider broad policy alternatives and program wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts, and
- (5) Allow reduction in paperwork.

INTRODUCTION

As a Program EIR, this document focuses on the overall effects of the proposed Plan. The analysis does not examine the effects of any potential specific projects that may occur during the lifespan of the proposed Plan. Any impacts associated with development that are not fully evaluated within the scope of this EIR may require further environmental analysis. However, the City envisions that this Program EIR may be used to eliminate or reduce the scope of future environmental review for individual projects that are consistent with the proposed Plan pursuant to CEQA Guidelines Section 21083.3 and other streamlining provisions authorized by CEQA. For a complete listing of environmental topics covered in this Draft EIR, see Chapter 4, *Environmental Analysis*.

2.3 IMPACTS CONSIDERED LESS THAN SIGNIFICANT

CEQA Guidelines Section 15128 allows environmental issues for which there is no likelihood of significant impacts to be “scoped out” and not analyzed further in the EIR. It was determined that several resource categories would not result in significant impacts and thus are not further analyzed in this Draft EIR. A list of the resource categories or thresholds “scoped out” is included in Chapter 6, *CEQA-Mandated Sections*, of this Draft EIR.

2.4 ENVIRONMENTAL REVIEW PROCESS

2.4.1 DRAFT EIR

Pursuant to State CEQA Guidelines Section 15063, the City of Davis decided to do a comprehensive EIR because of the public’s interest in the proposed project and potential environmental impacts. In compliance with Section 21080.4 of the California Public Resources Code, the City of Davis circulated the Notice of Preparation (NOP) for the proposed project to the Office of Planning and Research (OPR) State Clearinghouse and interested agencies and persons on October 7, 2020, for a 30-day review period. The NOP solicited comments from identified responsible and trustee agencies, as well as interested parties regarding the scope of the Draft EIR. Appendix 2-1 of this Draft EIR contains the NOP as well as the comments received by the City of Davis in response to the NOP.

This Draft EIR will be available for review by the public and interested parties, agencies, and organizations for a 60-day comment period from Thursday, July 14, 2022, through Friday September 16, 2022. During the comment period, all are invited to submit written or e-mail comments on the Draft EIR to:

Sherri Metzker
City of Davis
Department of Community Development and Sustainability – Planning Division
23 Russell Boulevard, Suite 2
Davis, CA 95616
downtownplan@cityofdavis.org

2.4.2 FINAL EIR

Upon completion of the 60-day review period, the City of Davis will review written comments received and prepare written responses to each comment. A Final EIR will then be prepared incorporating all of the comments received, responses to the comments, and any changes to the Draft EIR that result from the comments received. The Final EIR will then be presented to the City of Davis Planning Commission and City Council for potential certification as the environmental document for the proposed project. All persons who commented on the Draft EIR will be notified of the availability of the Final EIR and the date of the public hearing before the City of Davis Planning Commission and City Council.

All responses to comments submitted on the Draft EIR by public agencies will be provided to those agencies at least 10 days prior to the hearing on EIR certification. The City of Davis City Council will make findings regarding the extent and nature of the impacts as presented in the Final EIR. The City of Davis City Council may find that the mitigation measures are outside the jurisdiction of the City or that there are no feasible mitigation measures for a given significant impact. In these cases, the City may nonetheless determine that the proposed project is necessary or desirable due to specific overriding considerations and may adopt a Statement of Overriding Considerations to ultimately approve the proposed project.

2.4.3 MITIGATION MONITORING

Public Resources Code Section 21081.6 requires that the lead agency adopt a mitigation monitoring and reporting program for any project for which it has made findings pursuant to Public Resources Code 21081. Such a program is intended to ensure the implementation of all mitigation measures adopted through the preparation of an EIR. The Mitigation Monitoring and Reporting Plan (MMRP) for the proposed project will be completed as part of the Final EIR.

2.4.4 NOTICE OF PREPARATION

The City of Davis issued a NOP on October 7, 2020. A scoping meeting was held on October 29, 2020 to receive oral comments and the CEQA-mandated scoping period for this EIR was held from October 7, 2020 to November 5, 2020, during which interested agencies and the public could submit comments about environmental concerns regarding the proposed project to be addressed in EIR. During this time, the City of Davis received comment letters from a variety of State and local agencies and individuals as well as oral and written comments from the public (see Appendix 2-1 for all comment letters received). The comments received are summarized in Table 2-1, *NOP and Scoping Meeting Comment Summary*.

INTRODUCTION

TABLE 2-1 NOP AND SCOPING MEETING COMMENT SUMMARY

Commenting Agency/Person	Date	Comment Topic	Issue Addressed In:
Public Agencies			
Native American Heritage Commission (NAHC)	10/7/2020	Tribal Cultural Resources	Chapter 6, <i>CEQA Mandated Sections</i>
California Department of Transportation (Caltrans)	11/3/2020	Transportation	Chapter 3, <i>Project Description</i> Section 4.12, <i>Transportation</i>
Public/Organizations			
Lynn and Laura Christensen	10/22/2020	Merit Resource	Section 4.7, <i>Historic Resources</i>
Jim Gray	10/25/2020	Updating Specific Plan to address Pandemic-related issues	Section 4.7, <i>Historic Resources</i> Section 4.8, <i>Land Use and Planning</i>
Jennifer Anderson	10/27/2020	Historic properties, building heights	Section 4.7, <i>Historic Resources</i> Section 4.8, <i>Land Use and Planning</i>
Jim Gray	10/28/2020	Historic properties, zoning, aesthetics, land use	Section 4.1, <i>Aesthetics</i> Section 4.7, <i>Historic Resources</i> Section 4.8, <i>Land Use and Planning</i>
Old East Davis Neighborhood Association	10/28/2020	Building height, investment, land use	Section 4.1, <i>Aesthetics</i> Section 4.8, <i>Land Use and Planning</i>
Anthony Ruebner	10/28/2020	Building height	Section 4.1, <i>Aesthetics</i>
Kemble Pope and Steve Greenfield	10/29/2020	Building height, density, housing, noise, land use	Section 4.1, <i>Aesthetics</i> Section 4.8, <i>Land Use and Planning</i> Section 4.9, <i>Noise</i>
Alan Miller	10/29/2020	Building height, safety of historic bicycle lanes	Section 4.1, <i>Aesthetics</i> Section 4.7, <i>Historic Resources</i> Section 4.8, <i>Land Use and Planning</i> Section 4.12, <i>Transportation</i>
Greg Rowe	11/02/2020	Alternatives, building height, economic feasibility	Section 4.8, <i>Land Use and Planning</i> Chapter 5, <i>Alternatives</i>
Richard McCann	11/05/2020	Impacts of Plan, Cumulative impacts, Mitigation measures	Cumulative impacts and mitigation measures are addressed in each respective topic
Old East Davis Neighborhood Association	Mark Grote	Historic resources, Design Review, Alternatives, Trees, Hazardous materials	Section 4.3, <i>Biological Resources</i> Section 4.6, <i>Hazards and Hazardous Materials</i> Section 4.7, <i>Historic Resources</i> Section 4.8, <i>Land Use and Planning</i> Chapter 5, <i>Alternatives</i>
Scoping Meeting Comments			
Steve Greenfield	10/29/2020	Compliance with SB 330, Noise	Section 4.9, <i>Noise</i> Section 4.10, <i>Population and Housing</i>
Larry Guenther	10/29/2020	Tree canopy, Hazardous materials, Historic resources	Section 4.3, <i>Biological Resources</i> Chapter 4.6, <i>Hazards and Hazardous Materials</i> Section 4.7, <i>Historic Resources</i>
Greg Rowe	10/29/2020	Resiliency to pandemics, Online retail and mixed-use development	N/A
Mahal Hackett	10/29/2020	No comment on the scope of the EIR made	N/A

INTRODUCTION

TABLE 2-1 **NOP AND SCOPING MEETING COMMENT SUMMARY**

Commenting Agency/Person	Date	Comment Topic	Issue Addressed In:
Steve Greenfield	10/29/2020	Response to retail uses	N/A
Greg Rowe	10/29/2020	Flexibility of Form Based Code	N/A
Rhonda Reed	10/29/2020	Form Based Code, Housing	Section 4.10, <i>Population and Housing</i>
Larry Guenther	10/29/2020	Parking	Chapter 3, <i>Project Description</i>
Rhonda	10/29/2020	Evaluation of different scenarios	Chapter 5, <i>Alternatives</i>
Chris Granger	10/29/2020	Evaluation of train station and parking garage and alternatives	Section 4.8, <i>Land Use and Planning</i> Chapter 5, <i>Alternatives</i>
Al Miller	10/29/2020	Plan for transitional area east of tracks	N/A

INTRODUCTION

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3. *Project Description*

This chapter of the Draft Environmental Impact Report (EIR) describes the proposed Downtown Davis Specific Plan and associated Form-Based Code (Downtown Code) (“proposed project” or “proposed Specific Plan”). The proposed project would establish a planning framework to facilitate future development of the 132-acre Specific Plan Area (also referred to as project site) located in central Davis. The location of the overall Project Site within the regional and local contexts of Yolo County and the City of Davis (City) are shown in *Figure 3-1, Regional Context* and *Figure 3-2, Specific Plan Neighborhoods*, respectively.

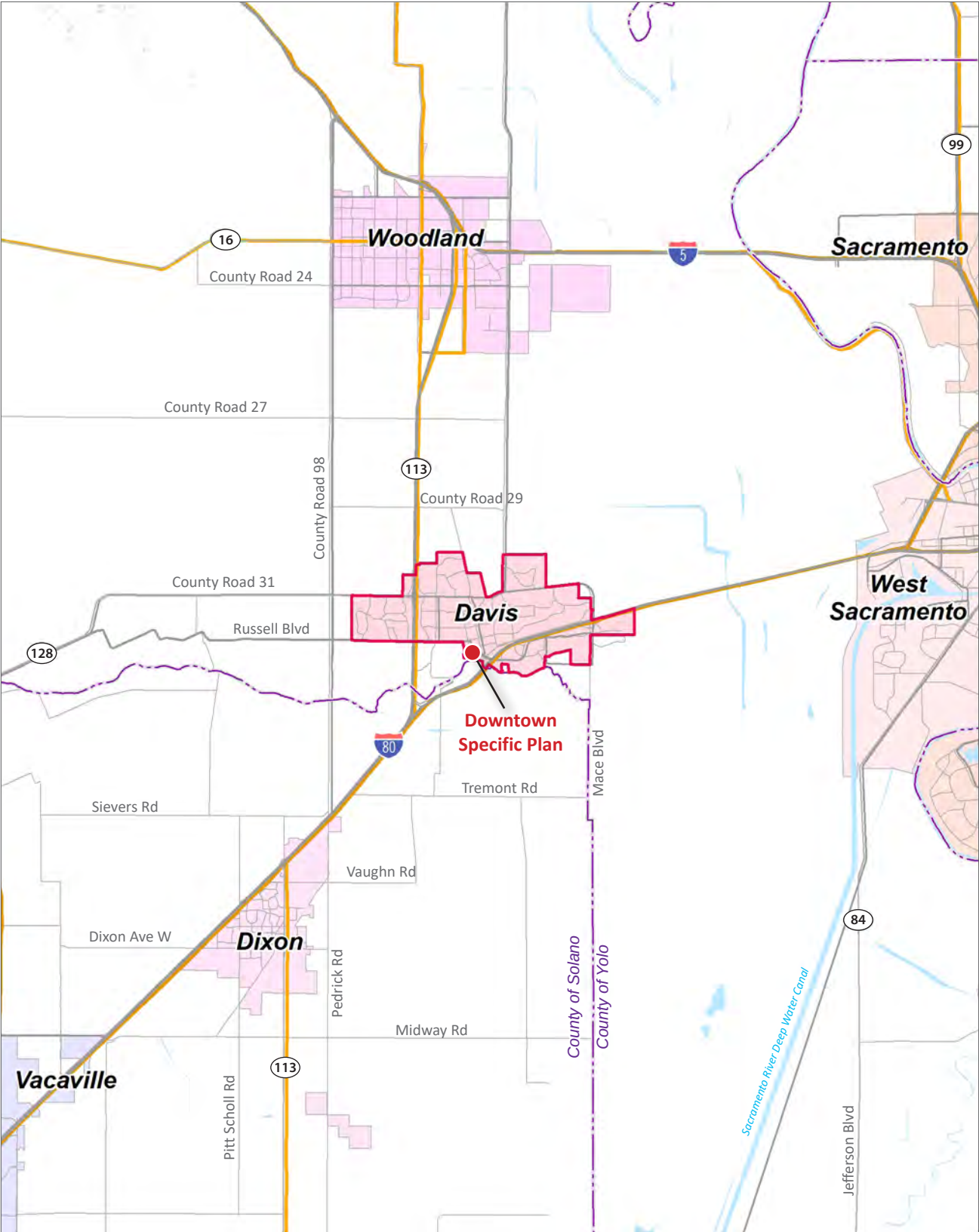
Existing residential neighborhoods in and surrounding Downtown include Old East Neighborhood and Old North Neighborhood, which are partially within the Specific Plan Area, and University Avenue/Rice Lane Neighborhood, which is wholly within the Specific Plan Area.

This chapter provides an overview of the proposed project including the contents of the proposed Specific Plan, the future buildout potential anticipated in the Specific Plan Area, and relevant implementation and approval requirements. For information on the project background, planning process, and existing conditions in and around the Specific Plan Area, refer to the environmental setting contained in each of the technical sections in Chapter 4 of this Draft EIR.

3.1.1 PROJECT COMPONENTS

3.1.1.1 CONSOLIDATION OF EXISTING PLANNING DOCUMENTS

The proposed Specific Plan provides a strategy to achieve the community’s underlying goal of sustainability through safe multi-modal transportation, public access, adaptability to the future, guided by a form-based development approach that builds upon the existing fabric of Downtown Davis. Once adopted, the Specific Plan would serve as the overarching land use policy document and provide new zoning and development standards that guide long term development and infrastructure and foster a vibrant Downtown Davis with a mix of residential and non-residential uses. As such, the proposed project would consolidate or amend several existing plans and regulations which exist in the city of Davis, as listed in Table 3-1.

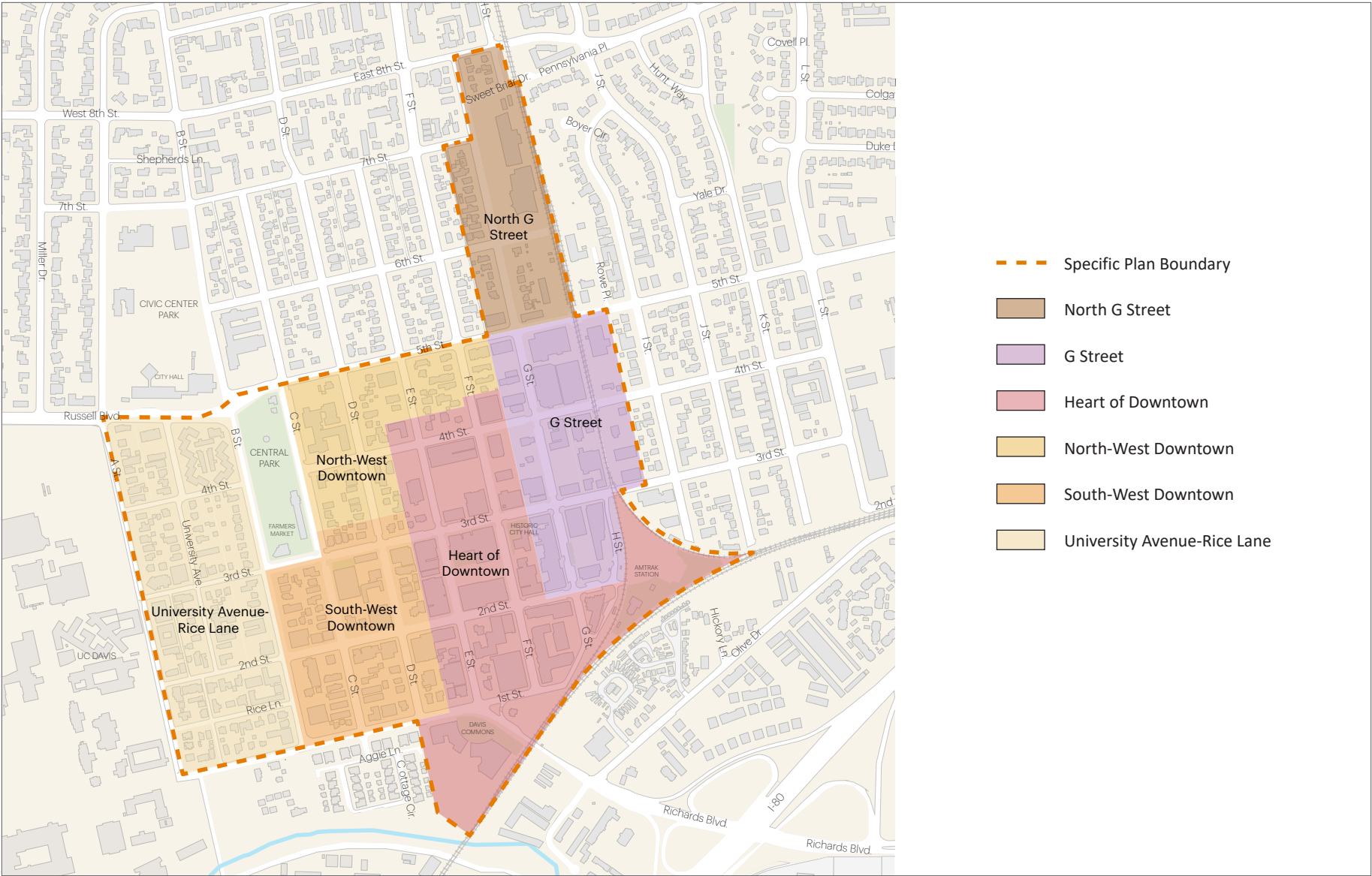


Source: ESRI, 2020

Note: Unincorporated county areas are shown in white.

Figure 3-1
Regional Context

PROJECT DESCRIPTION



Source: Opticos Design, Inc., 2019

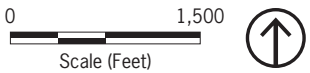


Figure 3-2
Specific Plan Neighborhoods

PROJECT DESCRIPTION

TABLE 3-1 PLANNING DOCUMENTS TO BE CONSOLIDATED OR AMENDED BY THE PROPOSED PROJECT

Planning Documents	Action
General Plan	Amended to redesignate Downtown Davis Mixed Use.
Core Area Specific Plan (CASP)	Replaced by the proposed Specific Plan.
Davis Downtown and Traditional Residential Neighborhood Design Guidelines	Replaced by proposed Specific Plan for the Specific Plan Area and no longer in effect for Downtown. Still in effect for other applicable residential neighborhoods.
Article 40.13A Downtown and Traditional Neighborhood Overlay District	Replaced by proposed Specific Plan for the Specific Plan Area and no longer in effect for Downtown. Still in effect for other applicable residential neighborhoods.
Infill Development Principles and Expectations	Replaced by the proposed Specific Plan for the Specific Plan Area. Still in effect for other applicable areas.
Climate Action and Adaptation Plan Downtown Parking Management Plan	Content related to Downtown to be updated.
Downtown Sign Design Guidelines	Replaced by the proposed Specific Plan. Still in effect for other applicable residential neighborhoods.
Article 40.05 Core Area Infill District	Rescinded. Replaced by the Downtown Code.
Article 40.13 Core Area Combining District	Rescinded. Replaced by the Downtown Code.
Article 40.13A Downtown and Traditional Neighborhood Overlay District	Replaced by the proposed Specific Plan for the Specific Plan Area. Still in effect for other applicable residential neighborhoods.
Davis Municipal Code Article 40.14 Central Commercial District	Rescinded. Replaced by the Downtown Code.
Davis Municipal Code Article 40.15 Mixed Use District	Rescinded/Amend as needed. Replaced by the Downtown Code. Still in effect for other applicable areas.
Davis Municipal Code Article 40.23 Historical Resources Management	Maintain. Downtown Code relies on this article. Update references as needed.
Gateway/Olive Drive Specific Plan	Amend to remove Amtrak site and Davis Commons.
Davis Municipal Code Zoning Designations PD 10-72, PD 8-82, PD 1-86, PD 2-86D, PD 4-15	Retain PDs. Amend description and map as needed for consistency with the proposed Specific Plan.

PROJECT DESCRIPTION

3.1.1.2 DOWNTOWN DAVIS SPECIFIC PLAN ORGANIZATION

The proposed Specific Plan is organized into eight chapters preceding the associated Downtown Code. The following includes a detailed description of the structure for the proposed Specific Plan.

- **Chapter 1: Purpose.** Explains the Specific Plan and its relationship to existing regulatory frameworks in the city of Davis.
- **Chapter 2: Existing Conditions.** Describes existing conditions in the Specific Plan Area and key issues and opportunities for future growth.
- **Chapter 3: Community Engagement.** Summarizes the process and outcome of public engagement, including goals and guiding principles.
- **Chapter 4: Built Environment.** Describes the future built form, character, public realm, and development program in the Specific Plan Area.
- **Chapter 5: Historic Resources.** Identifies and describes the historic resources in the Specific Plan Area and provides recommendations for historic preservation as the Downtown grows.
- **Chapter 6: Mobility and Parking.** Explains the policy direction related to the future streetscapes, modal prioritization, and parking policies of the Specific Plan.
- **Chapter 7: Infrastructure.** Summarizes the proposed green infrastructure, water, and sewer improvements needed to sustain future development in the Specific Plan Area.
- **Chapter 8: Implementation.** Outlines implementation, phasing, and plan administration strategies.

3.1.1.3 PROJECT OBJECTIVES

The primary purposes of the proposed project are to replace the outdated Core Area Specific Plan (CASP), to extend the buildout horizon in the Specific Plan Area to year 2040, and to update guiding policies and implementing actions and zoning so that they meet current State requirements and community priorities. The proposed project will become the new guide to long term development and infrastructure for Downtown Davis. It evaluates and addresses existing development policies, codes, and guidelines, addresses recurring challenges to the development process, and will enhance the quality of life in Davis. The proposed Specific Plan includes six overarching goals which serve as a framework for guiding policies and implementing actions which would facilitate anticipated growth in the Specific Plan Area. The goals, which serve as the project objectives for the EIR, are as follows:

- Facilitate a carbon neutral, equitably accessible, water efficient, zero waste, resilient community by 2040.
- Create a compact, mixed-use community that expands residential development opportunities designed to take advantage of active modes of transportation and transit and supports existing commercial while also allowing for modest commercial expansion.
- Establish a development hierarchy to promote non-vehicular travel and create a strong sense of place.

PROJECT DESCRIPTION

- Consolidate regulatory processes for consistency, predictability, and to provide a comprehensive plan for development, infrastructure, and streamlined environmental analysis.
- Develop complete streets that improve access to transit and non-vehicular modes of transit, increase bicycle and pedestrian safety, and reduce dependence on vehicles and VMT.
- Encourage residents to use Downtown instead of driving across town or to nearby cities for jobs, experiences, dining, and shopping.
- Provide a variety of housing options at all levels of affordability near opportunities, jobs, facilities, services, and destinations where most daily needs can be met without a car.
- Find creative ways to reuse vacant and underutilized retail and commercial space Downtown.
- Create a sense of place that balances new development with historic character.
- Create public spaces are green, active, inclusive, and support the health of the public and the environment.

3.1.1.4 DOWNTOWN DAVIS SPECIFIC PLAN

Growth that would occur under implementation of the proposed Specific Plan would be guided by the proposed land use policies in the Built Environment Chapter, which dictates the vision for the future of the Specific Plan Area. The Regulating Plan for Zoning (Land Use Plan) Map establishes both the land use and zoning designations to implement this vision, as described in more detail below.

Zoning Overview

The proposed Specific Plan would be implemented through specific policy guidance and the associated Downtown Code, a form-based zoning code which would replace the existing zoning and development standards for all properties in the Specific Plan Area, except as identified in the proposed Specific Plan for Central Park, certain planned developments (PDs), and a portion of the University Avenue/Rice Lane Neighborhood. The primary intent of the proposed Downtown Code is to create a clear hierarchy in the downtown's built form, transportation system, and open spaces, reflecting the role and intensity of uses in different parts of the Specific Plan Area. The form-based zoning code model was identified in the public engagement process to ensure future development results in predictable physical development with a high-quality public realm that complements existing development in the Specific Plan Area.

Form-based zoning codes are a type of zoning that focus on the specific “form and design” of new buildings—unlike the existing use-based code that focuses on the specific “activities and uses” of a new building. A form-based code does not define any particular type of development for a site, rather, it broadly defines an array of allowable uses. The proposed Downtown Code describes the types of uses that are allowed in each zone. Uses that are not listed are not allowed unless the Community Development Director determines that the proposed use is similar to a listed use. The proposed Downtown Code is intended to reduce regulatory barriers to development and facilitate development by removing unclear or uncoordinated regulations of the existing use-based Zoning Code. It also includes supplemental standards that support the form-based approach and provide additional direction.

PROJECT DESCRIPTION

Land Use Overview

The proposed Specific Plan would consolidate existing land use and zoning designations in the Specific Plan Area. These land use designations are broadly characterized as either residential or non-residential in the associated building types and are largely established to give policy direction for the proposed zoning and standards. Land use in the Specific Plan Area would be implemented through the development standards in the Downtown Code which provides the requirements for the variety of building types that are allowed in each environment. The proposed land use and zoning designations allow for a range of both residential and non-residential uses in the various zones. The proposed land use and zoning direction for the Specific Plan Area are listed in Table 3-2 and shown on Figure 3-3, *Proposed Land Use and Zoning*.

TABLE 3-2 LAND USE AND ZONING DIRECTION

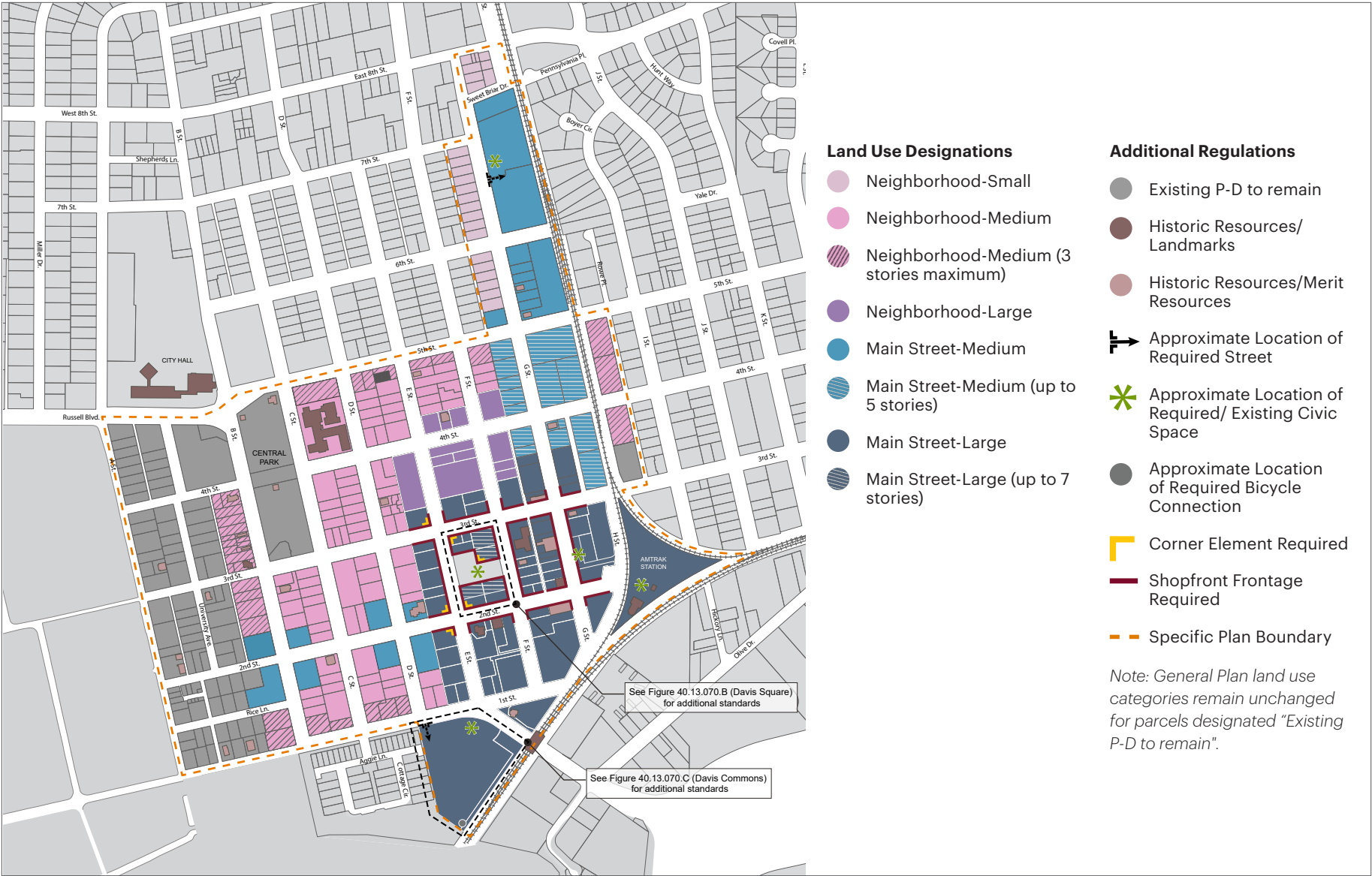
Land Use Designation/ Zone	Allowed Uses	Land Area	Maximum Height	Building Configuration
Neighborhood Small	Mixed-use, residential, small office, limited services	2.9 acres	2 stories	House-form, primarily detached
Neighborhood Medium/ Neighborhood Medium Subzone	Mixed-use, residential, small office, limited retail and services	24.3 acres	4 stories/ 3 stories in subzone	Primarily house-form, detached and attached
Neighborhood Large	Mixed-use, residential, office, limited retail and services	4.3 acres	5 stories	House-form and block-form, attached
Main Street Medium/ Main Street Medium Subzone	Mixed-use, residential, office, services, retail, R&D, and restaurants	15.4 acres	4 stories/ 5 stories in subzone	House-form and block-form, primarily attached
Main Street Large/ Main Street Large Subzone	Residential, office, services, retail, and restaurants	23.5 acres	5 stories/ 7 stories in subzone	Block-form, attached
Planned Development*	Varies	21.7 acres	Varies	Varies

*The Planned Development designation refers to parcels in the Specific Plan Area which will remain designated and zoned as their existing use.

Neighborhoods

The land use and zoning standards proposed in the Specific Plan were determined based on a neighborhood approach that would ensure that future growth preserves the character of the built environment. As shown on Figure 3-2, *Specific Plan Neighborhoods*, the Specific Plan Area is made up of six distinct neighborhoods, each with unique qualities and character, which are culturally and geographically distinct. Using the neighborhood approach, the Downtown Code was crafted to ensure future development would meet the needs of each neighborhood and the broader Specific Plan Area, preserving existing cultural and geographic distinctions. Each neighborhood's existing and future characteristics are described in detail below.

PROJECT DESCRIPTION



Source: Opticos Design, Inc., 2019

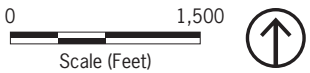


Figure 3-3
Proposed Land Use and Planning

PROJECT DESCRIPTION

Heart of Downtown

The Heart of Downtown neighborhood, located on the southern edge of the Specific Plan Area along the train tracks, is envisioned as the center of activity and commerce in the Specific Plan Area. The neighborhood includes the Amtrak station and serves as a gateway to the southern edge of the Specific Plan Area as one of the most vibrant activity nodes in the city. The proposed Specific Plan highlights the Heart of Downtown neighborhood as engaging pedestrians through active building frontages shaded with awnings and galleries. Buildings are proposed as block-form ranging from five to seven stories in height with no front setbacks to create a large-scale environment that communicates a sense of arrival. This neighborhood is the densest of all six neighborhoods in the Specific Plan Area. Heights would be primarily five stories with development up to seven stories allowed adjacent to the E Street Plaza. Improvements to the streetscape are proposed to ensure a safe and comfortable travel experience for all modes while public space improvements are proposed to reinforce the Heart of Downtown neighborhood as a recreation and entertainment node.

G Street

The G Street neighborhood is located to the east of the Heart of Downtown neighborhood, located along the eastern edge of the Specific Plan Area. The G Street neighborhood has historical characteristics that ties the railroad, which runs through the G Street neighborhood, with industrial-style architecture. The proposed Specific Plan envisions the G Street neighborhood as a flex district with scalable spaces close to services and amenities to support commercial, service, and entrepreneurial land uses. Development of a maximum five stories would be allowed in the G Street neighborhood, set at or near the sidewalk, with active ground floor uses and facades that engage pedestrians, though building heights could potentially increase to up to seven stories within the blocks located between Third and Second Streets under one potential scenario in the plan. The regulating plan includes a transitional reduction in scale and height to the east of the railroad tracks to encourage a smooth massing transition between the Specific Plan Area and the Old East neighborhood within and to the east of the Specific Plan Area. The properties in the transition area east of the railroad tracks would have building heights up to three stories or under one potential scenario, up to four stories. Streetscape improvements in existing right-of-way in the G Street neighborhood would ensure ample pedestrian/bicycle space, green infrastructure, and increased safety while landscaping and parklet improvements are proposed to complement the built environment.

North G Street

The North G Street neighborhood is in the northern portion of the Specific Plan Area, located north of the G Street neighborhood. The North G Street neighborhood extends off the commercial core of the Specific Plan Area and is largely residential in character. This neighborhood is also located entirely within the existing Old North neighborhood, which is an older established residential neighborhood. Development in the North G Street neighborhood would include block-form buildings up to four stories in height; however, the proposed Specific Plan encourages smaller house-form development or upper floor setbacks to provide a transition in scale between development in the Specific Plan Area and the adjacent established neighborhoods. Larger buildings would be set along or near the sidewalk while smaller development would be set back. Streetscape improvements would focus on facilitating safe active transportation into the Specific Plan Area, while landscaping improvements would create memorable public gathering spaces.

PROJECT DESCRIPTION

North-West Downtown

The North-West Downtown neighborhood is situated to the north of the Heart of Downtown neighborhood and to the south of the Old North neighborhood. The North-West Downtown neighborhood is currently low-intensity residential and retail and commercial in nature, largely composed of small-scale and detached development. The proposed Specific Plan maintains the medium-scale development in the North-West Downtown neighborhood to provide a natural transition between the commercial core of the Heart of Downtown neighborhood and the residential nature of the Old North neighborhood. Future development would be no more than four stories in height with some active, but primarily residential, ground floor uses and generally up to three stories on properties facing the Old North neighborhood. However, in one potential scenario of the plan, the northern portion of the Davis Community Church site would allow development up to four stories. Streetscape improvements would improve access to Central Park, while open space improvements would provide programming updates for the community space at Central Park.

South-West Downtown

The South-West Downtown neighborhood is an active cultural and commercial center to the west of the Heart of Downtown neighborhood, to the south of Central Park, and to the east of the University Avenue-Rice Lane neighborhood. The South-West Downtown neighborhood currently varies in scale. The Specific Plan proposes that the South-West Downtown grow as a mixed-use commercial and residential neighborhood with development a maximum of four stories in height, largely set at or near the sidewalk, with some variation. Ground floor uses would be a mix of residential and active uses. Streetscape improvements would enhance the multi-modal environment in the South-West Downtown neighborhood, particularly when connecting with Central Park.

University Avenue-Rice Lane

The University Avenue-Rice Lane neighborhood is located on the far west boundary of the Specific Plan Area to the east of UC Davis. The University Avenue-Rice Lane neighborhood is primarily residential and would remain residential except for limited commercial uses on the edges of the neighborhood boundaries. Development is proposed at a maximum of four stories set back from the sidewalk with residential ground floor uses and active ground floor uses on parcels along B Street facing the South-West Downtown neighborhood. Under one potential scenario in the plan, the properties fronting on Third Street and several other properties on Second Street, A Street, and University Avenue would also be rezoned under the Specific Plan with a maximum building height of three stories. Streetscape improvements would enhance the connection between UC Davis and the Specific Plan Area. The Specific Plan does not propose any open space improvements.

3.1.1.5 HISTORIC RESOURCES

The proposed Specific Plan recognizes the important role that historic resources have in the Specific Plan Area. The proposed Specific Plan seeks to protect historic resources and preserve the neighborhood character, balancing historic preservation while encouraging adaptive use and sensitive redevelopment. The proposed Specific Plan builds from existing City regulations and proposes minor modifications to strengthen preservation of valuable historic resources in the Specific Plan Area.

PROJECT DESCRIPTION

The City of Davis became a Certified Local Government in 1995 by joining the California Office of Historic Preservation, which provides technical assistance and small grants. The City of Davis is required to enforce applicable state and local regulation for the designation and protection of historic resources.

Davis Municipal Code

Article 40.13.A, Downtown and Traditional Neighborhood Overlay District, applies design guidelines to the properties within the Specific Plan Area in the downtown and surrounding residential neighborhoods. The Specific Plan replaces this article for properties in the Specific Plan Area but maintains the existing guidelines for properties which are outside the Specific Plan Area boundary and for a portion of the University Avenue/Rice Lane Neighborhood which would retain its existing zoning.

Article 40.23, Historical Resources Management, governs the historic preservation process. This chapter would not be modified by the proposed Specific Plan or Downtown Code other than clarifying or updating references.

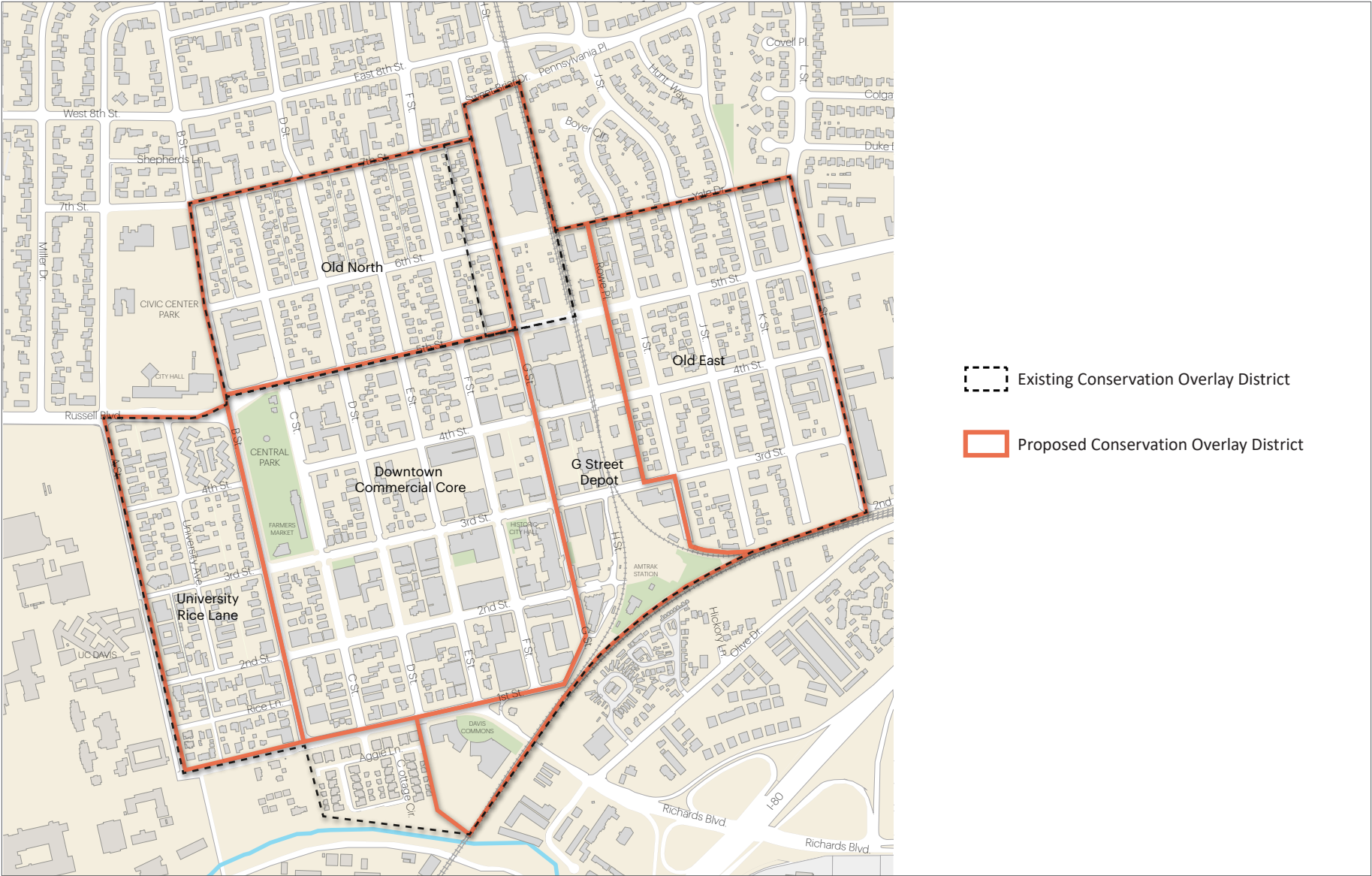
Proposed Conservation Overlay District Modifications

The proposed Specific Plan would modify the existing Conservation Overlay District (See Figure 3-4, *Conservation Overlay District*). It would eliminate the Conservation Overlay District as a whole and establish the three existing residential neighborhoods as individual conservation districts. The portion of the Specific Plan area within the Conservation Overlay District would be removed from it, as would the southwest corner between UC Davis and the Davis Commons site. It would not result in the addition of any land into the Conservation Overlay District. The new Conservation Overlay would result in three distinct districts: University Avenue-Rice Lane, Old North, and Old East. Both the Old North and Old East Conservation Overlay Districts extend beyond the boundary of the Specific Plan Area to ensure the existing historic character of those neighborhoods are preserved.

The proposed Specific Plan provides recommendations to be considered to update the Conservation Overlay District approach so that it more effectively protects the historic character of the areas, while also helping to achieve various plan objectives and protecting individual resources within the Specific Plan. This includes eliminating the district as a whole and establishing existing neighborhoods as individual conservation districts; developing separate design guidelines for each district; and establishing special areas of interest to encompass transitional areas between the Downtown Commercial Core and the Old East and Old North neighborhoods.

A Conservation Overlay District for the surrounding neighborhoods would protect scale and character. This Overlay is not considered a historic district and, therefore, properties are not subject to review in relation to the overall district. However, the age of buildings does qualify individual buildings for review under CEQA.

PROJECT DESCRIPTION



Source: Opticos Design, Inc., 2019

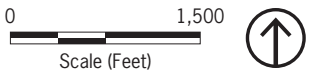


Figure 3-4
Conservation Overlay District

PROJECT DESCRIPTION**Zoning Considerations**

The proposed Specific Plan recognizes that zoning regulations and design guidelines in historically significant areas should promote responsible development adjacent to historic resources. Therefore, the proposed Downtown Code includes specific provisions informed by the existing architectural character of historic resources so that future infill development and redevelopment is at a scale appropriate for the existing community and existing historic resources. The Downtown Code utilizes existing building types, both individually and in relationship to one another, to inform the ongoing preservation of historic resources. Such standards are set forth in Downtown Code Section 40.14.080, which work to further refine building form and physical character through massing and façade articulation standards, historic resource adjacency standards, and rooftop room standards. Two primary considerations include employing upper story setbacks for new construction of two or more stories taller than adjacent historic resources and the orienting of new construction to be compatible with existing access and orientation of the historic resources. Refer to Chapter 4.4, Cultural Resources, for more discussion on historic resource preservation as part of the proposed project.

3.1.1.6 TRANSPORTATION

The proposed Specific Plan sets forth policies and strategies that would improve the transportation network in the Specific Plan Area to ensure safety and access for all modes of transportation and that improve the overall public realm. Transportation improvements proposed in the Specific Plan, shown on Figure 3-5, *Proposed Transportation Network Improvements*, focus on maintaining a high-quality pedestrian environment within the inner portion of the Specific Plan Area; promoting bicycling and public transit along key corridors; and continuing to accommodate automobile travel, with higher traffic volumes concentrated on specific thoroughfares. Refer to Chapter 4.13, Transportation, for a detailed description of transportation network improvements in the Specific Plan Area.

Multimodal Transportation Network

Multimodal thoroughfares are proposed on Russell Boulevard/Fifth Street from A Street to I Street along the northern edge of the Specific Plan Area; on First Street from A Street to F Street along the southern edge of the Specific Plan Area; on B Street between First Street and Fifth Street; and on F Street between First Street and Fifth Street. An additional multimodal corridor extends south from First Street, crossing the railroad tracks to Richardson Boulevard. These multimodal thoroughfares are proposed as complete streets that provide harmony between each mode of transportation, with a heavier focus on automobile and public transit travel, while also accommodating improvements for safe bicycle travel. The Specific Plan proposes several improvements to the vehicular network, including personal automobiles and public transit, including:

- Transit priority corridors.
- Multimodal access improvements.
- Signalization and/or reconstruction of select intersections.
- Traffic signal coordination and speed limit reductions in certain areas to accommodate active transportation

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- Removal of select turn lanes.
- Green infrastructure improvements

Bicycle and Pedestrian Transportation

Bicycle priority streets include A Street and D Street from Russell Boulevard to First Street. Shared bicycle and pedestrian priority streets include E Street and F Street between First Street and Fourth Street, G Street between First Street and Fifth Street, and Third Street between UC Davis to the west and the Davis Train Depot to the east. Pedestrian priority areas are along C Street between Third Street and Fifth Street and Second Street between B Street and the Davis Train Depot. The Specific Plan proposes several improvements to the bicycle and pedestrian network, including:

- Reconstruction of Third Street and E Street to pedestrian-first shared streets.
- Streetscape improvements.
- Grade-separated bicycle and pedestrian crossings.
- Signalization and/or reconstruction of select intersections.
- Improvements to existing bicycle and pedestrian crossings.
- Construction of Class IV cycle tracks.
- Extension and/or construction of shared-use paths.

Parking

The proposed parking management measures reflect best practices, respond to new and emerging technologies and trends, support the Specific Plan's policies and goals, and seek to make more efficient use of parking resources in the Specific Plan Area.

PROJECT DESCRIPTION



Source: Opticos Design, Inc., 2019

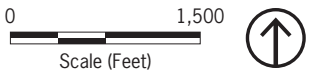


Figure 3-5
Proposed Transportation Network Improvements

PROJECT DESCRIPTION

3.1.1.7 UTILITIES AND GREEN INFRASTRUCTURE

A primary goal of the proposed Specific Plan is to plan for and accommodate sustainable development in the Specific Plan Area. The proposed Specific Plan, therefore, includes several infrastructure improvements that are either planned or under consideration. The proposed Specific Plan found that existing infrastructure systems for stormwater drainage, potable water, and sanitary sewer are in good condition and of a sufficient capacity to serve the Specific Plan Area. Therefore, the Specific Plan does not propose extensive improvements to infrastructure systems in the Specific Plan Area. However, the proposed project would extend the underground storm line up Fourth Street to capture an area that is not currently connected to the underground drainage network. Additionally, the City plans to retrofit 20 to 40 existing catch basins with modern curb inlets to prevent clogging. The locations of the catch basins in the Specific Plan Area are shown in Figure 7.3 of the Specific Plan.

The proposed Specific Plan also encourages low impact development and green infrastructure techniques that would result in future development with features that mimic natural stormwater processes. Such techniques include green roofs, downspout rainwater harvesting, bioretention swales, and permeable pavement. These techniques, when integrated into the built environment, manage stormwater collection and quality through sedimentation, filtration, and evapotranspiration which reduce pollutants found in urban stormwater runoff. Such techniques can also be utilized to preserve hydrologic patterns, recharge groundwater, reduce potable water consumption, and create urban wildlife habitats. It also encourages a district approach where appropriate and feasible, such as the possibility of stormwater quality treatment measures at the Core Area Drainage Pond. For further detail, refer to Chapter 4.8, Hydrology and Water Quality, and Chapter 4.14, Utilities and Service Systems.

3.1.1.8 DOWNTOWN CODE

The proposed Downtown Code sets forth the standards for building form, land use, and other topics within the Specific Plan Area. The standards reflect the community's vision for implementing both the General Plan and the proposed Specific Plan to ensure that future development considers existing character and scale, but provides feasible opportunities for needed infill development with a clearer process and more predictable results. The proposed Downtown Code implements the related land use, transportation, and parking policies and previously discussed, and includes additional provisions for planning and development in the private realm (i.e., site standards, screening, landscaping, parking, etc.).

3.1.2 PROJECTED DEVELOPMENT

Because the majority of the Specific Plan Area is built out, the development program is based on the yield on vacant and underutilized sites to accommodate infill development for the building types envisioned by the Specific Plan. Development is proposed as outlined below, with the highest density of development located in the southern portion of the Specific Plan Area which is the traditional core commercial area west of the Davis Train Depot and extending northwards along G Street, dissipating in intensity towards the boundaries of the Specific Plan Area, to provide transition to the adjacent neighborhoods. The total development program under the proposed Specific Plan would provide for up to 1,000 new residential units and up to 600,000 square feet of new non-residential development. The breakdown by

PROJECT DESCRIPTION

neighborhood is an approximate distribution based on opportunity sites and their proposed downtown zones, but is not intended as a development cap for the respective neighborhoods.

TABLE 3-3 DOWNTOWN DAVIS SPECIFIC PLAN PROPOSED DEVELOPMENT PROGRAM BY NEIGHBORHOOD

Neighborhood	Residential		Nonresidential	
	Units	Population ^a	Square Feet	Jobs ^b
Heart of Downtown	513	1,109	330,700	-
G Street	168	363	111,400	-
North G Street	102	220	59,800	-
North-West Downtown	78	168	34,000	-
South-West Downtown	106	229	48,700	-
University Avenue- Rice Lane	33	71	15,400	-
Net Total Proposed	1,000	2,160	600,000	1,501
Total Existing	506	1,083	1,200,000	2,482
TOTAL	1,506	3,243	1,800,000	3,983

Notes: The neighborhood development numbers were derived from testing of opportunity sites with additional development capacity on the opportunity sites based on regulations in the proposed Downtown Code.

a. An average population of 2.16 persons per household is applied in the Specific Plan Area.

b. Jobs are calculated by applying a rate of 1 job per 350 square feet of built-up area (gross area).

Source: Public Review Draft Downtown Davis Specific Plan, 2019.

3.1.3 PROJECT IMPLEMENTATION

While the Specific Plan would be primarily implemented through the associated Downtown Code, the proposed Specific Plan includes several guiding policies and associated implementing actions to achieve the proposed project's six goals described in Section 3.1.1.3, Project Objectives. The policies and actions recommended to be carried out for implementation of the proposed Specific Plan fall within the categories of urban design and placemaking; circulation; parking and transportation demand management; infrastructure; historic resources management; and sustainability. The guiding policies and associated implementing actions in the Specific Plan can be found in Appendix 3-1.

3.1.4 PROJECT PERMITS AND APPROVALS

The proposed project would be adopted solely by the City. Future development would need to conform to applicable Downtown Code development and design standards, and be consistent with Specific Plan implementing actions. Depending on the proposal, a future development project may be exempt from CEQA review because a CEQA exemption applies or the approval is ministerial,¹ or a project may require further environmental review and subsequent analysis in a Negative Declaration, Mitigated Negative Declaration, or an Environmental Impact Report. Projects may be ministerial, requiring no discretionary action or may require review and approval by the Director of Community Development and Sustainability,

¹ Projects may be ministerial, which means that they do not require any discretionary review.

PROJECT DESCRIPTION

the Planning Commission, and/or the City Council, and other agencies as needed. City Permits would be needed for the construction of all structures, to allow for certain uses or events within the Specific Plan Area, and to approve encroachments in the right-of-way.

If future development projects under the proposed Specific Plan would disturb more than one acre of land, the project would be required to obtain coverage under the National Pollution Discharge Elimination System through the Storm Water Pollution Prevention permitting program of the Central Valley Regional Water Quality Control Board (CVRWQCB).

Additionally, the following would be required to be adopted in order to implement the proposed project:

- Certify the EIR
- Adopt a General Plan Amendment to incorporate the mixed use land use designations for the Specific Plan Area
- Adopt the Downtown Davis Specific Plan through a resolution

Adopt the Downtown Code and related Zoning Ordinance amendments and additions

3.1.5 INTENDED USES OF THIS EIR

This is a Program EIR that examines the potential environmental impacts of the proposed project. This DEIR also addresses various actions by the City to adopt and implement the Downtown Davis Specific Plan. This EIR serves as a Program EIR under CEQA Guidelines section 15168. According to CEQA Guidelines 15168(b), use of a program EIR can provide advantages, including:

- (1) Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action,
- (2) Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis,
- (3) Avoid duplicative reconsideration of basic policy considerations,
- (4) Allow the Lead Agency to consider broad policy alternatives and program wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts, and
- (5) Allow reduction in paperwork.

As a Program EIR, this document focuses on the overall effects of the proposed Downtown Davis Specific Plan. The analysis does not examine the effects of any potential specific projects that may occur during the lifespan of the proposed Downtown Davis Specific Plan. Further, the nature of specific plans is such that some proposed policies are intended to be more qualitative, with specific details to be determined upon development of a specific project. No development or subdivision maps are being requested as a part of this project. Any impacts associated with subdivision or development that are not fully evaluated within the scope of this EIR may require further environmental analysis. However, the City envisions that this Program EIR may be used to eliminate or reduce the scope of future environmental review for individual projects that are consistent with the Downtown Davis Specific Plan pursuant to CEQA Guidelines Section 21083.3 and other streamlining provisions authorized by CEQA.

PROJECT DESCRIPTION

It is the intent of the DEIR to evaluate the environmental impacts of the project, thereby enabling the City, other responsible agencies, and interested parties to make informed decisions with respect to the requested entitlements.

PROJECT DESCRIPTION

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4. *Environmental Analysis*

This chapter of the Draft EIR is made up of 14 sub-chapters, which evaluate the direct, indirect, and cumulative environmental impacts of the proposed project. The following sections describe the format of the environmental analysis, the thresholds of significance, and the methodology of the cumulative impact analysis.

4.1 **FORMAT OF THE ENVIRONMENTAL ANALYSIS**

Each sub-chapter is organized into the following sections:

- **Environmental Setting** provides a description of the existing environmental conditions, providing a baseline against which the impacts of the proposed project can be compared, and an overview of federal, State, regional, and local laws and regulations relevant to each environmental issue.
- **Standards of Significance** refer to the quantitative or qualitative standards, performance levels, or criteria used to compare the existing setting with and without the proposed project to determine whether the impact is significant. These thresholds are based on the 2019 CEQA Guidelines Appendix G, Environmental Checklist, and may also reflect established health standards, ecological tolerance standards, public service capacity standards, or guidelines established by agencies or experts. Apart from its adopted policies and levels of service that may be used as thresholds, the City has not adopted its own set of thresholds of significance for use in CEQA documents.
- **Impact Discussion** gives an overview of the potential impacts of the proposed project and explains why impacts were found to be significant or less than significant prior to mitigation. The impact discussions assume compliance with all applicable federal, State, regional, and local laws and regulations, including requirements in the proposed Form Based Code and Specific Plan policies. This subsection also includes a discussion of cumulative impacts to the proposed project. Impacts and mitigation measures are numbered consecutively within each topical analysis and begin with an acronymic or abbreviated reference to the impact section. The environmental effects of the proposed project are analyzed for potential significant impacts in the following environmental issue areas, which are organized with the listed abbreviations as follows:
 - Aesthetics (AES)
 - Air Quality (AQ)
 - Biological Resources (BIO)
 - Cultural Resources (CULT)
 - Energy (EN)
 - Greenhouse Gas Emissions (GHG)
 - Hazards and Hazardous Materials (HAZ)
 - Hydrology and Water Quality (HYDRO)
 - Land Use and Planning (LU)
 - Noise and Vibrations (NOISE)
 - Population and Housing (POP)
 - Public Services (Pub) + Recreation (REC)
 - Transportation (TRANS)
 - Utilities (UTIL)

ENVIRONMENTAL ANALYSIS

4.2 THRESHOLDS OF SIGNIFICANCE

As noted above, the significance criteria are identified before the impact discussion subsection, under the subsection, “Thresholds of Significance.” For each impact identified, a level of significance is determined using the following classifications:

- *Significant (S)* impacts include a description of the circumstances where an established or defined threshold would be exceeded.
- *Less-than-significant (LTS)* impacts include effects that are noticeable, but do not exceed established or defined thresholds, or are mitigated below such thresholds.
- *No impact* describes the circumstances where there is no adverse effect on the environment.

For each impact identified as being significant, the EIR identifies mitigation measures, where feasible, to reduce, eliminate, or avoid the adverse effect. If the mitigation measures would reduce the impact to a less-than-significant level successfully, this is stated in the EIR. However, significant and unavoidable (SU) impacts are described where mitigation measures are not feasible or would not diminish these effects to less-than-significant levels.

Where impacts are determined to be significant or potentially significant, mitigation measures are recommended, where feasible and necessary, to minimize the significant or potentially significant impact to less than significant. Similar to the organization of impacts in this Draft EIR, mitigation measures are alphanumerically organized based on the associated impact (e.g. for impact statement AES-1, if a mitigation measure were necessary, it would be labeled as Mitigation Measure AES-1.1).

4.3 CUMULATIVE IMPACT ANALYSIS

A cumulative impact consists of an impact created as a result of the combination of the proposed project evaluated in the EIR, together with other reasonably foreseeable projects causing related impacts. Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a project when the project’s incremental effect is “cumulatively considerable.” Used in this context, cumulatively considerable means that the incremental effects of an individual 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.

Where the incremental effect of a project is not “cumulatively considerable,” a lead agency need not consider that effect significant but must briefly describe its basis for concluding that the effect is not cumulatively considerable. Where the cumulative impact caused by the project’s incremental effect and the effects of other reasonably foreseeable projects is not significant, the EIR must briefly indicate why the cumulative impact is not significant.

The cumulative impact discussions in subchapters 4.1 through 4.14 explain the geographic scope of the area affected by each cumulative effect (e.g., immediate project vicinity, county, watershed, or air basin). The geographic area considered for each cumulative impact depends upon the impact that is being

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analyzed. For example, in assessing aesthetic impacts, the pertinent geographic study area is the vicinity of the proposed project from which the new development can be publicly viewed and may contribute to a significant cumulative visual effect. In assessing macro-scale air quality impacts, on the other hand, all development within the air basin contributes to regional emissions of criteria pollutants, and basin-wide projections of emissions is the best tool for determining the cumulative effect.

The CEQA Guidelines Section 15130 outlines two approaches to analyzing cumulative impacts. The first is the “list” approach, which requires a listing of past, present and reasonably anticipated future projects producing related or cumulative impacts. The second is the “projections-based” approach wherein the relevant growth projections contained in an adopted general plan or related planning document designed to evaluate regional or area-wide conditions are summarized. A reasonable combination of the two approaches may also be used.

The cumulative impact analysis in this Draft EIR relies on a projections approach supplemented by the list approach that, when considered with the effects of the proposed project, may result in cumulative effects. Table 4-1, *Reasonably Foreseeable Development Projects in Davis*, shows the other reasonably foreseeable projects in Davis within the vicinity of the proposed project, as of the date of circulation of the NOP of this EIR.

The geographic scope, or area of inquiry, for each cumulative impact category evaluated varies by environmental topic, but generally consists of all or some portion of the 102,575-acre Davis General Plan Planning Area. This includes buildout of the City of Davis city limits, pursuant to the General Plan, and those properties outside the city limits for which development applications have been submitted to the City of Davis, namely the Davis Innovation & Sustainability Campus and Nishi Gateway.

TABLE 4-1 REASONABLY FORESEEABLE DEVELOPMENT PROJECTS IN DAVIS

Project Name	Type and Size
Davis Innovation & Sustainability Campus	Since circulation of the NOP, this project was revised as DISC 2022 and reduced to a total of 1,340,000 square feet of innovation center/business and 460 residential units.
Bretton Woods	150 affordable, age-restricted apartments; 32 attached, age-restricted cottages; 94 attached, age-restricted units; 129 single-family detached, age-restricted units; 77 single-family detached, non-age-restricted units; an approximately three-acre continuing care retirement community which would consist of 30 assisted living, age-restricted detached units; an approximately 4.3-acre mixed-use area which would consist of a health club, restaurant, clubhouse, and up to 48 attached, age-restricted units; dog exercise area and tot lot; associated greenways, drainage, agricultural buffers; and offsite stormwater detention basin facilities
Olive Drive Mixed Use	76-unit apartment development; 1,100 square feet of commercial space
Plaza 2555	200-unit apartment development; 2,500 square feet of leasing office and café space

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TABLE 4-1 **REASONABLY FORESEEABLE DEVELOPMENT PROJECTS IN DAVIS**

Project Name	Type and Size
University Research Park Mixed-Use	160 apartments in four buildings; 26,912 square feet of tech space
University Commons	264 residential units; 150,000 square feet of retail uses; 3-level parking structure
231 3 rd St. PD Amendment – Guad’s Taco	Zoning amendment to allow a restaurant use with outdoor seating
111 Richards Hotel	Addition of a 14,000-square-foot courtyard; 3,150 square feet of meeting space; 800 square feet of hospitality suites
3820 Chiles Road Apartments	225 apartment units
B Street Residences	15,749 square feet multifamily building containing 11 rental units
The Cannery	182,350 square feet of mixed-use retail, office, and residential use
Chiles Ranch	108 dwelling units
Davis Live Student Housing	71-unit, 440 bed student housing development
Grande School Site	41 single-family residential homes
Hyatt House Hotel	120-room extended stay hotel
Lincoln 40 Apartments	130 multi-family units in a 249,875 square-foot building
Mace and Alhambra Office/R&D	32,220 square feet office space Two 16,200 square-foot buildings for flexible office use and research and development (R&D)
Marriott Residence Inn	120-room extended stay hotel in a 78,953 square-foot building
Nishi Student Apartments	700 medium high-density residential units; Up to 37 buildings with a total of up to 700 rental units; Up to 10,000 square feet of accessory retail and other community-related uses
Paul’s Place	18 units of permanent supportive micro-housing; 10 units of transitional housing; 4 emergency shelter beds; Enhanced day services including expanded shower, restroom, and laundry facilities
Sterling 5 th Street Apartments	160 market-rate units; 38 affordable units; 10,800 square feet of leasing office and clubhouse space
Theta XI Redevelopment	35-bed, three-story building
Trackside Center	47,983 square-foot mixed-use building with 27 apartments
University View Townhomes	Two duplex townhouse buildings which would consist of two attached dwellings of two units each.
Source: https://www.cityofdavis.org/city-hall/community-development-and-sustainability/development-projects	

4.1 AESTHETICS

This section describes the potential impacts to the visual character of the Specific Plan Area and its surroundings associated with future development that could occur by adopting and implementing the proposed project. A summary of the relevant regulatory framework and existing conditions is followed by a discussion of the project-specific and cumulative impacts. The assessment of aesthetic impacts is subjective by nature. Aesthetics generally refer to the identification of visual resources and the quality of what can be seen, as well as an overall visual perception of the environment. This analysis attempts to identify and objectively examine factors that contribute to the perception of aesthetic impacts.

4.1.1 ENVIRONMENTAL SETTING

4.1.1.1 REGULATORY FRAMEWORK

State Regulations

California Scenic Highway Program

The intent of the California Scenic Highway Program is “to protect and enhance California’s natural scenic beauty and to protect the social and economic values provided by the State’s scenic resources.” Caltrans administers the program, which was established in 1963 and is governed by the California Streets and Highways Code (§260 et seq.). The goal of the program is to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of the adjacent land. Caltrans has compiled a list of state highways that are designated as scenic and county highways that are eligible for designation as scenic.

Scenic highway designation can provide several types of benefits to the region. Scenic areas are protected from encroachment of inappropriate land uses, free of billboards, and are generally required to maintain existing contours and preserve important vegetative features. Only low-density development is allowed on steep slopes and along ridgelines on scenic highways, and noise setbacks are required for residential development.

There are no designated Scenic Highway Corridors in the vicinity of the Specific Plan Area.

Local Regulations

City of Davis General Plan

The City of Davis General Plan contains goals, policies, standards, and actions pertaining to aesthetics and visual resources in the Urban Design, Neighborhood Preservation and Community Forest Management (UD) Element:

Goal UD 1: Encourage community design throughout the City that helps to build community, encourage human interaction, and support non-automobile transportation.

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- **Policy UD 1.1:** Promote urban/community design which is human-scaled, comfortable, safe, and conducive to pedestrian use.

Goal UD 2: Maintain an aesthetically pleasing environment and manage a sustainable community forest to optimize environmental, aesthetic, social, and economic benefits.

- **Policy UD 2.1:** Preserve and protect scenic resources and elements in and around Davis, including natural habitat and scenery and resources reflective of place and history.
- **Policy UD 2.2:** Maintain and increase the amount of greenery, especially street trees, in Davis, both for aesthetic reasons and to provide shade, cooling, habitat, air quality benefits, and visual continuity.
- **Policy UD 2.3:** Require an architectural “fit” with Davis’ existing scale for new development projects.
- **Policy UD 2.4:** Create affordable and multi-family residential areas that include innovative designs and on-site open space amenities that are linked with public bicycle/pedestrian ways, neighborhood centers, and transit stops.
- **Policy UD 2.5:** Ensure attractive functional signs.

Goal UD 3: Use good design as a means to promote human safety.

- **Policy UD 3.2:** Provide exterior lighting that enhances safety and night use in public spaces, but minimizes impacts on surrounding land uses.
 - **Standard a.** Outdoor lighting should not unreasonably interfere with the use and enjoyment of dark-sky activities and near-by residences.

Goal UD 4: Create an urban design framework that would strengthen the physical form of the city.

- **Policy UD 4.1:** Develop an urban design framework plan to consolidate and clarify the relevant design concepts in this chapter and other chapters to promote a positive and memorable image for the city and to reinforce the functional systems of the city such as land use, circulation, and open space.

Goal UD 5: Create and enforce clear and reasonable design guidelines that operationalize the relevant goals, policies, and actions of this general plan.

- **Policy UD 5.1:** Develop and implement new design guidelines, which are reviewed periodically.

Goal UD 6: Strengthen the city’s neighborhoods to retain desirable characteristics while allowing for change and evolution, promoting public and private investments, and encouraging citizen involvement in neighborhood planning.

- **Policy UD 6.1:** Recognize the existence of individual neighborhoods with general boundaries and facilitate the development of neighborhood strategies in partnership with residents and property owners. The strategies should recognize the unique characteristics of the individual neighborhood and the potential for change, within the context of a well-planned city. The strategies should be directed toward solving unique neighborhood problems and implementing neighborhood priorities and enhancing livability.

Davis Municipal Code

The City of Davis regulates outdoor lighting within the Specific Plan Area through Chapter 8, Buildings, of the Davis Municipal Code. Article 8.17, Outdoor Lighting Control, is intended to create standards for outdoor lighting to minimize light pollution, glare, and light trespass caused by inappropriate or

misaligned light fixtures, while improving nighttime public safety, utility, and security, and preserving the night sky as a natural resource.

Section 8.17.030, General Requirements

- (a) All outdoor light fixtures installed after the effective date of the ordinance codified in this article and thereafter maintained upon private property used for commercial, industrial or multifamily purposes, as defined in the zoning code of the city, shall be fully shielded. In addition, light trespass and glare shall be limited to a reasonable level through the use of shielding, and directional lighting methods, including, but not limited to, fixture location and height.
- (b) All outdoor light fixtures installed after the effective date of the ordinance codified in this article and thereafter maintained upon public property or in the public right-of-way shall be fully shielded. In addition, light trespass and glare shall be limited to a reasonable level through the use of shielding, and directional lighting methods, including, but not limited to, fixture location and height.
- (c) Externally illuminated signs, advertising displays, billboards, and building identification shall use top mounted light fixtures which shine light downward and which are fully shielded.
- (d) Low-pressure sodium lighting by itself shall not be used in outdoor light fixtures due to poor color rendition and the need by public safety personnel to identify color in the nighttime environment. A combination of low pressure sodium lighting and other type(s) of lighting, such as, fluorescent, may be used if color rendition can be maintained.
- (e) Outdoor light fixtures used to illuminate flags, statues, or any other objects mounted on a pole, pedestal, or platform shall use a very narrow cone of light for the purpose of confining the light to the object of interest and minimize spill-light and glare.
- (f) Outdoor light fixtures used for outdoor recreational facilities shall be fully shielded except when such shielding would cause an impairment to the visibility required in the intended recreational activity. In such cases, partially shielded fixtures and directional lighting methods shall be utilized to limit light pollution, glare and light trespass to a reasonable level, as determined by the building official, without diminishing the performance standards of the intended recreational activity. Illumination from recreational facility light fixtures shall be shielded to minimize glare extending toward roadways where impairment of motorist vision might cause a hazard.
- (g) In addition to the provisions in this article, all outdoor light fixtures shall be installed in conformity with all other applicable provisions of this municipal code. (Ord. 1966 § 1)

The purpose of Article 40.23, Historical Resources Management, is to promote the general welfare by providing for the identification, designation, protection, enhancement, perpetuation, and use of historical resources including improvements, buildings, structures, objects, signs, features, sites, cultural landscapes, places, and areas within the city that reflects special elements of the city's historical, architectural, archaeological, cultural, or aesthetic heritage for the following reasons:

- a) To encourage public knowledge, understanding, appreciation, and use of the city's past;
- b) To foster civic pride in the beauty and character of the city and in the accomplishments of its past;
- c) To enhance the visual character of the city by encouraging new design and construction that complement the city's historical resources;
- d) To increase the economic benefits of historic preservation to the city and its inhabitants;
- e) To protect property values within the city;

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- f) To identify as early as possible and resolve conflicts between the preservation of historical resources/districts and alternative land uses; and
- g) To conserve valuable material and energy resources by ongoing use and maintenance of the existing built and natural environment.

4.1.1.2 EXISTING CONDITIONS

Downtown Davis, including the Specific Plan Area, is currently urbanized and built out, and developed with a variety of uses, such as public and semi-public uses, parks and plazas, retail, office, service commercial, and residential. Development in the Specific Plan Area is generally one to two stories in height, with scattered buildings of three stories or greater. Buildings generally front onto the sidewalk, with others set back from the sidewalk. The streets in the Specific Plan Area are relatively wide, with on-street parking and bike lanes, wide sidewalks and street trees which contribute to a distinct pedestrian character. Existing sources of light and glare in the Downtown Specific Plan area include existing buildings, automobiles, and street lights.

As discussed in more detail in Section 4.4, Cultural Resources, there are 31 designated historical or eligible resources in the downtown core and surrounding neighborhoods. There are additional properties and areas in the Downtown Specific Plan area that could potentially contain historic resources, with 40 properties or areas identified for priority evaluation.

There are no designated short-, medium-, or long-range views to visual resources outside of the Specific Plan Area. The developed nature of the Specific Plan Area and the number of trees that line the streets generally obstruct such views. Additionally, as determined in the Davis General Plan Update EIR and as noted in Section 4.1.1.1 above, the City of Davis has no officially designated scenic highways, corridors, vistas, or viewing areas in the Specific Plan Area. (Davis General Plan Update EIR, p. 5A-1).

4.1.2 STANDARDS OF SIGNIFICANCE

Implementation of the proposed project would result in a significant aesthetic impact if it would:

1. Have a substantial adverse effect on a scenic vista.
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
3. 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.
4. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

4.1.3 IMPACT DISCUSSION

AES-1 Implementation of the proposed project would not have a substantial adverse effect on a scenic vista.

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. As stated in Section 4.1.1.2, Existing Conditions, the City of Davis has no officially designated scenic highways, corridors, vistas, or viewing areas. (Davis General Plan Update EIR, p. 5A-1) Therefore, there would be no impact on scenic vistas.

Significance Without Mitigation: No impact.

AES-2 Implementation of the proposed project could damage scenic resources related to historic buildings.

As stated, there are no designated Scenic Highway Corridors in the vicinity of the Specific Plan Area (Davis General Plan Update EIR, p. 5A-1); therefore, the proposed project would not degrade views from a scenic highway. However, there are several historic buildings in the Specific Plan Area that could be negatively affected by new development allowed under the proposed Downtown Code. As shown in Downtown Code Figure 40.13.070.A, Downtown Code Zoning Map, the Downtown Code would allow buildings up to seven stories in height in the southern and western portions of the Specific Plan Area where designated historic resources and landmarks are located. In addition, there are historic resources along 4th and 5th Streets, where buildings of up to five stories would be allowed. Many of these existing historic resources are single story. While all new construction in the Downtown Specific Plan Area would be required to comply with design standards in the Downtown Code, which could include design elements to complement these historic structures, as well as with Article 40.23 of the Davis Municipal Code, the difference in mass of the buildings would alter the context of the Downtown Specific Plan Area substantially. Given the difference in mass and scale between the historical resources and that of new development that would be allowed under the project, this would be a significant impact. There are no feasible measures that would reduce the disparity in size and scale of this development and this impact would remain significant and unavoidable.

Significance Without Mitigation: Potentially significant.

Mitigation Measures

There are no feasible mitigation measures.

Significance With No Feasible Mitigation: Significant and unavoidable.

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AES-3	Implementation of the proposed project in an urbanized area would not conflict with applicable zoning and other regulations governing scenic quality.

As listed in Section 4.1.1.1, Regulatory Framework, the existing Davis General Plan includes several goals, policies, standards, and actions pertaining to aesthetics and visual resources. These include goals and policies that encourage the promotion of unique urban/community design practices in existing urban areas in the city of Davis to promote safety, to strengthen the physical form of the city, and to preserve existing resources and community characteristics. As described in Chapter 3, Project Description, of this Draft EIR, the proposed Specific Plan will provide an updated strategy to achieve the Davis community's underlying goal of sustainability through safe multi-modal transportation, public access, adaptability to the future, guided by a form-based development approach that preserves the existing fabric of Downtown Davis. Once adopted, the Specific Plan would amend the Davis General Plan and serve as the overarching policy document that guides long term development and infrastructure within Downtown Davis. Further, the proposed Downtown Code would replace the Davis Municipal Code Chapter 40, Article 40.13, Core Area Design (C-D) Combining District for all properties in the Specific Plan Area. The primary intent of the proposed Downtown Code is to create a clear hierarchy in the downtown's built form, transportation system, and open spaces, reflecting the role and intensity of uses in different parts of the Specific Plan Area.

Adoption of the proposed Specific Plan, which builds from and replaces the outdated Core Area Specific Plan, would provide an implementation tool for the City of Davis to utilize as the Specific Plan Area continues to evolve. Potential future development in the Specific Plan Area would occur on a limited number of vacant parcels and in the form of infill/intensification on sites either already developed and/or underutilized, and/or close to existing development. Further, all potential future development that is subject to discretionary approval would be required to undergo environmental and design review prior to project approval, as necessary. While development resulting from implementation of the proposed project could result in changes in character in the Specific Plan Area, such development would be required to adhere to the provisions of the proposed Specific Plan and associated Downtown Code. Such development would also be required to comply with other applicable provisions of the Zoning Ordinance and the Davis Municipal Code, including Article 8.17 (Outdoor Lighting Control). Therefore, implementation of the proposed project would not conflict with applicable zoning or other regulations governing scenic quality and the impact is less than significant.

Significance Without Mitigation: Less than significant.

AES-4	Implementation of the proposed project would not expose people on- or off-site to substantial light or glare which would adversely affect day or nighttime views in the area.

The Specific Plan Area is an urbanized area with existing sources of nighttime glare and light that reduce the visibility of the night sky. Development that would occur as a result of implementation of the proposed project would introduce new sources of nighttime lighting, which could result in increased nighttime lighting in the project vicinity. Exterior lighting would be located throughout most of the

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outdoor areas of the Specific Plan Area, including, but not limited to, street lighting; exterior lighting on buildings; and lighting in public spaces. Light sources from future development may have a significant adverse impact on the surrounding areas by introducing nuisance light into the area and decreasing the visibility of nighttime skies. Additionally, on-site light sources may create light spillover impacts on surrounding land uses in the absence of mitigation. However, future development projects will be required to comply with the Davis Municipal Code Section 8.17.030, which requires fully shielded fixtures and the use of directional lighting methods, such as adjusting fixture location and height. It also requires illuminated signs to use fully shielded, downward-pointed fixtures. Compliance with Section 8.17.030 would ensure that all exterior lighting associated with future development under implementation of the proposed project is properly shielded and directed downward in order to eliminate light spillage onto adjacent properties, and reduce impacts to “dark skies.” Effects of project lighting would therefore be less-than-significant.

Glare is caused by light reflections from pavement, vehicles, and building materials, such as reflective glass and polished surfaces. During daylight hours, the amount of glare depends on the intensity and direction of sunlight. Glare can create hazards to motorists and nuisances for pedestrians and other viewers. At night, artificial lighting can cause glare or disturb residents. Although existing development in the Specific Plan Area is already a substantial source of light and glare, the proposed project would introduce new sources of light and glare into the Specific Plan Area. New sources of glare would occur primarily from the windshields of vehicles travelling to and from the Specific Plan Area, vehicles parked in the area, and from windows on future buildings. The use of reflective building materials, including polished steel and reflective glass, could increase daytime glare for sensitive receptors in the vicinity of the Specific Plan Area. This is considered a potentially significant impact.

Significance Without Mitigation: Potentially significant.

Mitigation Measures

Mitigation Measure AES-4: In order to reduce the potential for glare from buildings and structures within the project area, the Construction Plans developed for future projects shall incorporate low-reflective building materials. As part of the design review process, the City of Davis Department of Community Development and Sustainability shall ensure that the approved project uses non-reflective or low-reflective building materials, and includes measures including, but not limited to architectural articulation to break up spans of reflections, shading features such as awnings and louvers, and glazing treatments such as frits and films to minimize potential glare nuisance to off-site receptors.

Significance With Mitigation: Less than significant.

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4.1.4 CUMULATIVE IMPACTS

AES-5	Implementation of the proposed project would not result in a cumulatively considerable impact to aesthetic resources.

The cumulative setting for visual impacts includes potential future development under the proposed project, combined with effects of development on lands adjacent to the Specific Plan Area. Aesthetic impacts are generally localized to a project site and its immediate surroundings. Other development projects in the surrounding area include the approved Nishi Student Apartments Project south of the Specific Plan Area. It would create student-related housing on 46.9 acres of undeveloped land located between the UC Davis campus and the Interstate-80 and contribute to the visual change in the area. However, the Nishi site is visually and physically separated from the Specific Plan Area due to roadways, train tracks, and their relative locations. As with the proposed project, cumulative projects within the project vicinity would not substantially alter the visual character of the areas surrounding the Downtown, which include retail, public, and residential uses. Despite the urbanized nature of the Downtown, future development would substantially alter the visual character of the Downtown; however, it would not combine with other cumulative development outside the Specific Plan Area to result in a change of character outside the Specific Plan Area. Therefore, although the character in the Plan Area would change, because the changes would be localized, it would not combine with other development outside the area for additional impact. Similarly, light and glare impacts are localized and development in the Specific Plan Area is not expected to add significantly to the creation of nighttime light and glare outside of the Specific Plan Area. Therefore, the proposed project's contribution to cumulative aesthetic impacts is less than considerable, and therefore, is less than cumulatively significant.

Significance Without Mitigation: Less than significant.

4.2 AIR QUALITY

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for the Downtown Davis Specific Plan (proposed project) to impact air quality in the local and regional contexts. This evaluation is based on the methodology recommended by the Yolo-Solano Air Quality Management District (Yolo-Solano AQMD) for projects within the Sacramento Valley Air Basin (SVAB). The analysis focuses on air pollution from regional emissions and localized pollutant concentrations. In this chapter “emissions” refers to the actual quantity of pollutant, measured in pounds per day (lbs/day) and “concentrations” refers to the amount of pollutant material per volumetric unit of air. Concentrations are measured in parts per million (ppm), parts per billion (ppb), or micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). Cumulative impacts related to air quality are based on the regional boundaries of the SVAB.

The analysis in this chapter is based on buildout of the proposed Downtown Davis Specific Plan. The proposed buildout is modeled using the California Emissions Estimator Model (CalEEMod2020.4.0); and trip generation and vehicle miles traveled (VMT) provided by Fehr & Peers. Criteria air pollutant emissions modeling for the proposed project is included in Appendix 4.2-1.

4.2.1 ENVIRONMENTAL SETTING

4.2.1.1 AIR POLLUTANTS OF CONCERN

Criteria Air Pollutants

The pollutants emitted into the ambient air by stationary and mobile sources are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($\text{PM}_{2.5}$), and lead (Pb) are primary air pollutants. Of these, CO, SO_2 , NO_2 , PM_{10} , and $\text{PM}_{2.5}$ are “criteria air pollutants,” which means that ambient air quality standards (AAQS) have been established for them. VOC and NO_x are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and nitrogen dioxide (NO_2) are the principal secondary pollutants.

Each of the primary and secondary criteria air pollutants and its known health effects are described below.

- **Ozone** in the lower atmosphere is one of the main components of smog. It is not directly emitted but is formed in the atmosphere over several hours from combinations of various precursors in the presence of sunlight. Reactive organic gases (ROG) and Nitrogen Oxides (NO_x) are considered to be the primary compounds, or precursors, contributing to the formation of ozone. Ozone is viewed as both a secondary pollutant and a regional pollutant because ozone can form far from where precursors are emitted. Short-term exposure to ozone can result in injury and damage to the lungs, decreases in pulmonary function, and impairment of immune mechanisms. Chronic lung disease can occur as a result of longer-term exposure. Symptoms of ozone irritation include shortness of breath, chest pain when inhaling deeply, wheezing, and coughing. Children and persons with pre-existing respiratory disease (e.g., asthma, chronic bronchitis, and emphysema) are at greater risk. ROG are photochemically reactive hydrocarbons whose primary sources include mobile sources, consumer

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products, petroleum marketing (e.g., gas dispensing), coatings and solvents, and agricultural related activities. NO_x is a family of gaseous nitrogen compounds whose emissions result primarily from the combustion of fossil fuels under high temperature and pressure. On and off-road motor vehicle fuel combustion is the major source of this air pollutant. In 2005 daily emissions of ROG and NO_x in the District were estimated at 22 and 35 tons, respectively, with on road sources making up 29 percent of ROG and 52 percent of NO_x emissions (Yolo-Solano AQMD 2007).

- **Reactive Organic Gases** are composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of ROGs. Other sources include evaporative emissions from paints and solvents, asphalt paving, and household consumer products such as aerosols. There are no AAQS for ROGs. However, because they contribute to the formation of ozone, Yolo-Solano AQMD has established a significance threshold (Yolo-Solano AQMD 2007).
- **Particulate Matter** includes both solid particles and liquid droplets found in air. Many manmade and natural sources emit PM directly or emit other pollutants that react in the atmosphere to form PM. These solid and liquid particles come in a wide range of sizes. Particles less than 10 micrometers in diameter (PM₁₀) pose a health concern because they can be inhaled into and accumulate in the respiratory system. Particles with diameters between 2.5 and 10 micrometers are referred to as "coarse." Sources of coarse particles include crushing or grinding operations, and dust from paved or unpaved roads. Particles less than 2.5 micrometers in diameter (PM_{2.5}) are referred to as "fine" particles and are believed to pose the largest health risks. Because of their small size, fine particles can lodge deeply into the lungs. Sources of fine particles include all types of combustion (motor vehicles, power plants, wood burning, etc.) and some industrial processes. In 1997, the USEPA adopted a fine particulate matter standard for particles 2.5 microns or less in diameter (PM_{2.5}) for the first time, and revised the standard for PM₁₀. California Air Resources Board (CARB) adopted an annual PM_{2.5} standard in 2002. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis, and respiratory illnesses in children. Recent mortality studies have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air. Non-health-related effects include reduced visibility (Yolo-Solano AQMD 2007).
- **Carbon Monoxide** is formed by the incomplete combustion of carbon-containing material. Under most conditions, CO does not persist in the atmosphere and is rapidly dispersed. Elevated levels of CO are most likely to occur in the winter, when inversion levels trap pollutants near the ground and concentrate the CO. Since CO is somewhat soluble in water, normal winter conditions of rainfall and fog can suppress CO concentrations. Motor vehicles are the dominant source of CO emissions and adverse localized impacts can be created in areas of heavy traffic congestion. When CO combines with hemoglobin in the blood, the oxygen-carrying capacity of the blood is reduced and the release of oxygen is inhibited or slowed. This condition places angina (uncomfortable pressure, fullness, squeezing or pain in the center of the chest) patients, persons with other cardiovascular diseases or with chronic obstructive lung disease, asthma, and persons with anemia at risk. At higher levels, CO also affects the central nervous system. Symptoms of exposure may include headaches, dizziness, sleepiness, nausea, vomiting, confusion, and disorientation. In 2004 motor vehicles contributed approximately 71 percent of total CO emissions in the Sacramento Valley. Residential and agricultural burning and other mobile and miscellaneous sources contribute to the remainder. There have been

no recorded violations of the federal or state CO AAQS at Yolo-Solano AQMD monitoring stations (Yolo-Solano AQMD 2007).

- **Nitrogen Oxides** are a group of highly reactive gases. NO₂ is used as the indicator for the larger group of nitrogen oxides. NO₂ primarily gets in the air from the burning of fuel. NO₂ forms from emissions from cars, trucks and buses, power plants, and off-road equipment. Breathing air with a high concentration of NO₂ can irritate airways in the human respiratory system. Such exposures over short periods can aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing), hospital admissions and visits to emergency rooms. Longer exposures to elevated concentrations of NO₂ may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, as well as children and the elderly are generally at greater risk for the health effects of NO₂. NO₂ along with other NO_x reacts with other chemicals in the air to form both particulate matter and ozone; both of which are also harmful when inhaled due to effects on the respiratory system. NO₂ and other NO_x interact with water, oxygen and other chemicals in the atmosphere to form acid rain. The nitrate particles that result from NO_x make the air hazy and difficult to see though. NO_x in the atmosphere contributes to nutrient pollution in coastal waters (USEPA 2021b).
- **Sulfur Dioxide** is primarily generated by the burning of fossil fuels by power plants and other industrial facilities. Smaller sources of SO₂ emissions include: industrial processes such as extracting metal from ore; natural sources such as volcanoes; and locomotives, ships and other vehicles and heavy equipment that burn fuel with a high sulfur content. Short-term exposures to SO₂ can harm the human respiratory system and make breathing difficult. People with asthma, particularly children, are sensitive to these effects of SO₂. SO₂ emissions that lead to high concentrations of SO₂ in the air generally also lead to the formation of other sulfur oxides (SO_x). SO_x can react with other compounds in the atmosphere to form small particles. These particles contribute to particulate matter (PM) pollution. Small particles may penetrate deeply into the lungs and in sufficient quantity can contribute to health problems. At high concentrations, gaseous SO_x can harm trees and plants by damaging foliage and decreasing growth. Oxygen and other sulfur oxides can react with other compounds in the atmosphere to form fine particles that reduce visibility (haze) in parts of the United States. Deposition of particles can also stain and damage stone and other materials, including culturally important objects such as statues and monuments (USEPA 2021b).
- **Lead (Pb)** is a metal found naturally in the environment as well as in manufactured products. At the national level, major sources of lead in the air are ore and metals processing and piston-engine aircraft operating on leaded aviation fuel. Other sources are waste incinerators, utilities, and lead-acid battery manufacturers. The highest air concentrations of lead are usually found near lead smelters. As a result of the USEPA's regulatory efforts including the removal of lead from motor vehicle gasoline, levels of lead in the air decreased by 98 percent between 1980 and 2014. Once taken into the body, lead distributes throughout the body in the blood and is accumulated in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen carrying capacity of the blood. The lead effects most likely to be encountered in current populations are neurological effects in children. Infants and young children are especially sensitive to lead exposures, which may contribute to behavioral problems, learning deficits and lowered IQ. Lead is persistent in the environment and can be added to soils and sediments through deposition from

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sources of lead air pollution. Other sources of lead to ecosystems include direct discharge of waste streams to water bodies and mining. Elevated lead in the environment can result in decreased growth and reproduction in plants and animals, and neurological effects in vertebrates (USEPA 2021b).

Table 4.2-1, *Criteria Air Pollutant Health Effects Summary*, summarizes the potential health effects associated with the criteria air pollutants.

TABLE 4.2-1 CRITERIA AIR POLLUTANT HEALTH EFFECTS SUMMARY

Pollutant	Health Effects	Examples of Sources
Carbon Monoxide (CO)	Chest pain in heart patients Headaches, nausea Reduced mental alertness Death at very high levels	Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves
Ozone (O ₃)	Cough, chest tightness Difficulty taking a deep breath Worsened asthma symptoms Lung inflammation	Atmospheric reaction of organic gases with nitrogen oxides in sunlight
Nitrogen Dioxide (NO ₂)	Increased response to allergens Aggravation of respiratory illness	Same as carbon monoxide sources
Particulate Matter (PM ₁₀ and PM _{2.5})	Hospitalizations for worsened heart diseases Emergency room visits for asthma Premature death	Cars and trucks (particularly diesels) Fireplaces and woodstoves Windblown dust from overlays, agriculture, and construction
Sulfur Dioxide (SO ₂)	Aggravation of respiratory disease (e.g., asthma and emphysema) Reduced lung function	Combustion of sulfur-containing fossil fuels, smelting of sulfur-bearing metal ores, and industrial processes
Lead (Pb)	Behavioral and learning disabilities in children Nervous system impairment	Contaminated soil

Source: CARB 2021a

Toxic Air Contaminants

People exposed to toxic air pollutants (TAC) at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health problems (USEPA 2021a). By the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs (CARB 1999). Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. There are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most relevant to the project being particulate matter from diesel-fueled engines.

Diesel Particulate Matter

In 1998, CARB identified diesel particulate matter (DPM) as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs. Long-term (chronic) inhalation of DPM is likely a lung cancer risk. Short-term (i.e., acute) exposure can cause irritation and inflammatory systems and may exacerbate existing allergies and asthma systems (USEPA 2002).

4.2.1.2 REGULATORY FRAMEWORK

AAQS have been adopted at the state and federal levels for criteria air pollutants. In addition, both the state and federal government regulate the release of TACs. The proposed project is in the SVAB and is subject to the rules and regulations imposed by the Yolo-Solano AQMD, the California AAQS adopted by CARB, and National AAQS adopted by the EPA. Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the project are summarized in this section.

Federal and State Regulations

Ambient Air Quality Standards

The Clean Air Act (CAA) was passed in 1963 by the US Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The Clean Air Act allows states to adopt more stringent standards or to include other pollutant species. The California Clean Air Act, signed into law in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS.

The National and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect “sensitive receptors” most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both California and the federal government have established health-based AAQS for seven air pollutants, which are shown in Table 4.2-2, *Ambient Air Quality Standards for Criteria Air Pollutants*. These pollutants are ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), coarse inhalable particulate matter (PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb). In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

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TABLE 4.2-2 AMBIENT AIR QUALITY STANDARDS FOR CRITERIA AIR POLLUTANTS

Pollutant	Averaging Time	California Standard ^a	Federal Primary Standard ^b	Major Pollutant Sources
Ozone (O ₃) ^c	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Coarse Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 µg/m ³	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m ³	150 µg/m ³	
Respirable Fine Particulate Matter (PM _{2.5}) ^d	Annual Arithmetic Mean	12 µg/m ³	12 µg/m ³	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m ³	
Lead (Pb)	30-Day Average	1.5 µg/m ³	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 µg/m ³	
	Rolling 3-Month Average	*	0.15 µg/m ³	
Sulfates (SO ₄) ^e	24 hours	25 µg/m ³	*	Industrial processes.
Visibility Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H ₂ S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can

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TABLE 4.2-2 AMBIENT AIR QUALITY STANDARDS FOR CRITERIA AIR POLLUTANTS

Pollutant	Averaging Time	California Standard ^a	Federal Primary Standard ^b	Major Pollutant Sources
				be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hours	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Notes: ppm: parts per million; µg/m³: micrograms per cubic meter

* Standard has not been established for this pollutant/duration by this entity.

a. California standards for O₃, CO (except 8-hour Lake Tahoe), SO₂ (1 and 24 hour), NO₂, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

b. National standards (other than O₃, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O₃ standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

c. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

d. On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

e. On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. The 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

Source: CARB 2016

California has also adopted a host of other regulations that reduce criteria pollutant emissions:

- **AB 1493: Pavley Fuel Efficiency Standards.** Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016. In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025.
- **SB 1078 and SB 107: Renewables Portfolio Standards.** A major component of California's Renewable Energy Program is the renewables portfolio standard (RPS) established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010.
- **20 CCR: Appliance Energy Efficiency Standards.** The 2006 Appliance Efficiency Regulations (20 CCR §§ 1601–1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances.

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- **24 CCR, Part 6: Building and Energy Efficiency Standards.** Energy conservation standards for new residential and nonresidential buildings adopted by the California Energy Resources Conservation and Development Commission (now the California Energy Commission) in June 1977.
- **24 CCR, Part 11: Green Building Standards Code.** Establishes planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The green building standards became mandatory in the 2010 edition of the code.

Tanner Air Toxics Act and Air Toxics Hot Spot Information and Assessment Act

Public exposure to TACs is a significant environmental health issue in California. In 1983, the California legislature enacted a program to identify the health effects of TACs and reduce exposure to them. The California Health and Safety Code defines a TAC as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health” (17 CCR § 93000). A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 US Code § 7412[b]) is a toxic air contaminant. Under state law, the California Environmental Protection Agency, acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics “Hot Spot” Information and Assessment Act of 1987). The Tanner Air Toxics Act set up a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an “airborne toxics control measure” for sources that emit that TAC. If there is a safe threshold for a substance (i.e., a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate “toxics best available control technology” to minimize emissions. To date, CARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- **13 CCR Chapter 10 § 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling.** Generally restricts on-road diesel-powered commercial motor vehicles with a gross vehicle weight rating of greater than 10,000 pounds from idling more than five minutes.
- **13 CCR Chapter 10 § 2480: Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools.** Generally restricts a school bus or transit bus from idling for more than five minutes when within 100 feet of a school.

- **13 CCR § 2477 and Article 8: Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate.** Regulations established to control emissions associated with diesel-powered TRUs.

Regional

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State law recognizes that air pollution does not respect political boundaries and therefore requires CARB to divide the state into separate air basins that have “similar geographical and meteorological conditions” while still making “considerations for political boundary lines whenever practicable.” Originally, air pollution was regulated separately by Yolo County. Although this is still the practice in many counties in California, the Yolo-Solano AQMD was established in 1971 by a joint-powers agreement between the Yolo and Solano County Board of Supervisors. The Yolo-Solano AQMD is governed by a Board of Directors composed of representatives from both the county boards of supervisors and city council members from the cities within the Yolo-Solano AQMD. Yolo-Solano AQMD has jurisdiction over all of Yolo County and the northeast portion of Solano County, from Vacaville on the west, to Rio Vista on the South. Yolo-Solano AQMD includes about 1,600 square miles and a population of approximately 325,000 people (Yolo-Solano AQMD 2007).

Air Quality Management Planning

The Yolo-Solano AQMD is tasked with achieving and maintaining healthful air quality for its residents, by establishing programs, plans, and regulations enforcing air pollution control rules to attain all state and federal ambient air quality standards and minimize public exposure to airborne toxins and nuisance odors. Yolo-Solano AQMD has adopted several attainment plans to achieve state and federal air quality standards and comply with California CAA and Federal CAA requirements. Yolo-Solano AQMD continuously monitors its progress in implementing attainment plans and must periodically report to CARB and the USEPA. The Yolo-Solano AQMD, in partnership with the five air districts in the Sacramento Metropolitan Area, CARB, and the Sacramento Area Council of Governments (SACOG), periodically revises its attainment plans to reflect new conditions and requirements in accordance with schedules mandated by the California CAA and Federal CAA (Yolo-Solano AQMD 2007).

Ozone Attainment Planning

The 1994 Sacramento Area Regional Ozone Attainment Plan is the current federal ozone plan (SIP) for the Yolo-Solano AQMD and sets out stationary source control programs and statewide mobile source control programs for attainment of the 1-hour ozone standard. The districts of the Sacramento Region have also prepared an 8-hour Ozone Rate of Progress Plan that shows a 3 percent per year emission reduction in volatile organic compounds (or the NO_x equivalent) for 6 years (through 2008). This plan continues the strategies found in the 1-hour ozone SIP. The USEPA’s June 2005 revocation of the 1-hour ozone standard and enacting the 8-hour ozone standard required the air districts and CARB to prepare a new attainment demonstration SIP (Yolo-Solano AQMD 2007). The Yolo-Solano AQMD’s Board of Directors held a Public Hearing on October 11, 2017, and adopted the Sacramento Regional 2008 National Ambient Air Quality Standard (NAAQS) 8-Hour Ozone Attainment and Reasonable Further Progress Plan (Yolo-Solano AQMD

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2021). In 2015, the USEPA promulgated a new 8-hour NAAQS of 70 parts per billion (ppb). In 2016, CARB recommended in their report that the Sacramento region be designated nonattainment (based on 2014-2016 monitoring data). The USEPA published a final rule on June 4, 2018 (83 Federal Register 25776) designating the Sacramento Metro area as moderate nonattainment. Yolo-Solano AQMD Reasonably Available Control Technology (RACT) SIP analysis (for the 2015 standard) was approved by the Yolo-Solano AQMD's Board of Directors on September 9, 2020 (Yolo-Solano AQMD 2021a).

The California CAA of 1988 required the submission of a plan for attaining and maintaining state ambient air quality standards for ozone with subsequent updates every three years. Yolo-Solano AQMD originally adopted an Air Quality Attainment Plan (AQAP) in 1991 and has completed seven triennial plan updates since then. The most recent adopted triennial plan (May 2019) covers the years 2015-2017. The document summarizes emission trends over this time period, forecasts future emissions, and reviews efforts made by the Yolo-Solano AQMD to improve air quality (Yolo-Solano AQMD 2021a).

Particulate Matter Planning

In order to show attainment of the 24-hour $PM_{2.5}$ standard, an area must demonstrate that it has met the standard during three consecutive years. The Sacramento region was able to show that the standard had been achieved during the 2009-2011 period. The Yolo-Solano AQMD and the other air districts of the region subsequently prepared a $PM_{2.5}$ maintenance plan and redesignation request. The plan was submitted to CARB, but before it could be forwarded to USEPA, there were some $PM_{2.5}$ exceedances in late 2012. On May 10, 2017, USEPA found that the area attained the 2006 $PM_{2.5}$ standard by the attainment date of December 31, 2015 (82 Federal Register 21711). This finding was based on complete, quality-assured and certified $PM_{2.5}$ monitoring data for 2013 – 2015 (Yolo-Solano AQMD 2021a).

The Sacramento Federal Nonattainment Area (SFNA) has been identified by the USEPA as an area that is required to develop a mitigation plan to minimize the public exposure from $PM_{2.5}$ emissions generated during wildfire events. Air districts in the SFNA- $PM_{2.5}$ have jointly prepared the draft Wildfire Mitigation Plan for the Sacramento Federal Nonattainment Area for $PM_{2.5}$ as required by Title 40, Code of Federal Regulations, Part 51.930 (40 CFR 51.930). The Plan outlines the actions each air district will take to notify the public and minimize the air quality impacts when emissions from wildfires increase $PM_{2.5}$ concentrations in the region to a level where they exceed or are expected to exceed the 24-hour $PM_{2.5}$ national ambient air quality standard (Yolo-Solano AQMD 2021a).

While achieving the 24-hour national standard for fine particulates is the primary focus for the Sacramento Region, the USEPA has also adopted an annual standard for $PM_{2.5}$. This standard was tightened in 2012, but the Yolo-Solano AQMD and the rest of the Sacramento Region are consistently below it (Yolo-Solano AQMD 2021a).

Yolo-Solano AQMD Rules and Regulations

The Yolo-Solano AQMD's primary means of implementing air quality plans is by adopting rules and regulations. The Health and Safety Code §42300 et. seq. authorizes districts to adopt rules and regulations and to pursue civil and criminal penalties for violations. The Yolo-Solano AQMD rulebook contains more than 85 rules (Yolo-Solano AQMD 2007). Applicable rules include:

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- **Rule 2.3, Ringelmann Chart.** Visible emissions from stationary diesel-powered equipment are not allowed to exceed 40 percent opacity for more than three minutes in any one-hour.
- **Rule 2.5, Nuisance.** Dust emissions must be prevented from creating a nuisance to surrounding properties.
- **Rule 2.9, Open Burning.** Certain Materials prohibits outside fires for the purpose of disposing petroleum waste, demolition debris, construction debris, tires or other rubber materials, materials containing tar, or for metal salvage or burning of vehicle bodies. Any open burning requires approval and issuance of a burn permit from the Yolo-Solano AQMD and shall be performed in accordance with Rule 2.8, Open Burning, General.
- **Rule 2.11, Particulate Matter Concentration.** Prohibits release or discharge of particulate matter from any single source operation, dust, fumes, or total suspended particulate matter emissions in excess of 0.1 grain per cubic foot of gas at dry standard.
- **Rule 2.14, Architectural Coatings.** Regulates the VOC content of architectural coatings and solvents.
- **Rule 2.21, Storage and transfer of organic liquids.** Applies to any above ground stationary storage tank with a capacity of greater than 250 gallons, any gasoline bulk plant, any terminal, or any transport vessel that stores or transfers an organic liquid with a true vapor pressure of 0.5 psia or greater
- **Rule 2.22, Gasoline storage tanks.** Applies to the transfer of gasoline from any transport vessel into any stationary storage tank, and dispensing from any stationary storage tank located at a gasoline dispensing facility into any motor vehicle fuel tank.
- **Rule 2.27, Large boilers.** Applies to boilers, steam generators, and process heaters with rated heat inputs of greater than or equal to five (5.0) million BTU per hour.
- **Rule 2.28, Cutback and Emulsified Asphalt Paving Materials.** Regulates cutback and emulsified asphalt application.
- **Rule 2.31, Solvent cleaning and degreasing.** Applies to any owner or operator of any facility that uses VOC-containing materials for solvent cleaning or solvent degreasing
- **Rule 2.32, Stationary Internal Combustion Engines.** All stationary equipment, other than internal combustion engines less than 50 horsepower, emitting air pollutants controlled under District rules and regulations require an Authority to Construct (ATC) and Permit to Operate (PTO) from the Yolo-Solano AQMD. Portable equipment greater than 50 horsepower, other than vehicles, must be registered with either the CARB Portable Equipment Registration Program (PERP) or with the Yolo-Solano AQMD.
- **Rule 2.37, Natural Gas-fired Water Heaters and Small Boilers.** Limits the emissions of NO_x from natural gas-fired water heaters.
- **Rule 2.40 Wood Burning Appliances.** Prohibits installation of any new traditional “open hearth” type fireplaces.

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- **Rule 2.44, Central furnaces.** Applies to any person that manufactures, offers for sale, sells, or installs any natural gas-fired, fan-type central furnace with a rated heat input capacity of less than 175,000 British thermal units per hour
- **Rule 9-9, Asbestos.** In the event that demolition, renovation or removal of asbestos-containing materials is involved, this Rule requires Yolo-Solano AQMD consultation and permit prior to commencing demolition or renovation work.
- **Rule 11.1, Agricultural Operating Permit Program.** Applies to all stationary agricultural sources with a potential to emit greater than one half of any applicable emissions threshold for a major source.
- **Rule 11.2, Confined Animal Facilities Program.** Applies to any Confined Animal Facility (CAF).
- **Rule 11.3, Agricultural Engine Registrations.** Applies to any engine with a maximum rated horsepower of greater than 50 hp used in an agricultural operation.

In addition to the Yolo-Solano AQMD's primary role of controlling stationary sources of pollution, the Yolo-Solano AQMD is required to implement transportation control measures and identify indirect source control programs to reduce mobile source emissions. To accomplish this, the Yolo-Solano AQMD works closely with cities and counties and with regional transportation planning agencies. The Yolo-Solano AQMD has also enhanced its participation in CEQA where it actively reviews and comments on prepared environmental documents (Yolo-Solano AQMD 2007).

The Yolo-Solano AQMD coordinates with the transportation planning agencies [e.g., Sacramento Area Council of Governments (SACOG), Yolo County Transportation District, UC Davis Transportation and Parking Services and Unitrans, and Solano Transportation Authority] to help them comply with pertinent provisions of the federal and California CAA, as well as related transportation legislation (Yolo-Solano AQMD 2007).

Local Regulations

City of Davis

Section 40.24.040(c), Odors, in the City's Municipal Code regulates nuisance odors in the City. As identified in this section:

"No emission shall be permitted of odorous gases or other odorous matter in such quantities as to be readily detectable when diluted in the ratio of one volume of odorous air to four volumes of clean air at the points of measurement specified in section 40.24.030 or at the point of greatest concentration. Any process which may involve the creation or emission of any odors shall be provided with a secondary safeguard system, so that control will be maintained if the primary safeguard system should fail. There is hereby established as a guide in determining such quantities of offensive odors, Table iii, "odor thresholds," in Chapter 5, "Air Pollution Abatement Manual," Copyright 1951, by Manufacturing Chemists' Association, Inc., of Washington, D.C. and such manual or table as subsequently amended."

4.2.1.3 EXISTING CONDITIONS

Sacramento Valley Air Basin

The Yolo-Solano AQMD is within the boundaries of SVAB, which encompasses eleven counties including all of Shasta, Tehama, Glenn, Colusa, Butte, Sutter, Yuba, Sacramento, and Yolo Counties, the westernmost portion of Placer County and the northeastern half of Solano County. The SVAB is bounded by the North Coast Ranges on the west and Northern Sierra Nevada Mountains on the east. The intervening terrain is relatively flat.

Topography and Meteorology

Hot dry summers and mild rainy winters characterize the Mediterranean climate of the SVAB. During the year the temperature may range from 20 to 115 degrees Fahrenheit with summer highs usually in the 90s and winter lows occasionally below freezing. Average annual rainfall is about 20 inches, and the rainy season generally occurs from November through March. The prevailing winds are moderate in strength and vary from moist clean breezes from the south to dry land flows from the north (Yolo-Solano AQMD 2007).

The mountains surrounding the SVAB create a barrier to airflow, which can trap air pollutants under certain meteorological conditions. The highest frequency of air stagnation occurs in the autumn and early winter when large high-pressure cells collect over the Sacramento Valley. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduces the influx of outside air and allows air pollutants to become concentrated in a stable volume of air. The surface concentrations of pollutants are highest when these conditions are combined with temperature inversions that trap pollutants near the ground (Yolo-Solano AQMD 2007).

The ozone season (May through October) in the Sacramento Valley is characterized by stagnant morning air or light winds with the delta sea breeze arriving in the afternoon out of the southwest. Usually the evening breeze transports the airborne pollutants to the north out of the Sacramento Valley. During about half of the days from July to September, however, a phenomenon called the “Schultz Eddy” prevents this from occurring. Instead of allowing for the prevailing wind patterns to move north carrying the pollutants out, the Schultz Eddy causes the wind pattern to circle back to the south. Essentially, this phenomenon causes the air pollutants to be blown south toward the Yolo-Solano AQMD region. This phenomenon has the effect of exacerbating the pollution levels in the area and increases the likelihood of violating federal or state standards. The eddy normally dissipates around noon when the delta sea breeze arrives (Yolo-Solano AQMD 2021b).

Nonattainment Areas

The air quality management plan provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards through the State Implementation Plan (SIP). Areas are classified as attainment or nonattainment areas for pollutants depending on whether they meet the ambient air quality standards. Severity classifications for ozone nonattainment range in magnitude from marginal, moderate, and serious to severe and extreme.

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- **Unclassified.** A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- **Attainment.** A pollutant is in attainment if the AAQS for that pollutant was not violated at any site in the area during a three-year period.
- **Nonattainment.** A pollutant is in nonattainment if there was at least one violation of an AAQS for that pollutant in the area.
- **Nonattainment/Transitional.** A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the Yolo County portion of the SVAB is shown in Table 4.2-3, *Attainment Status of Criteria Air Pollutants in Yolo County*.

TABLE 4.2-3 ATTAINMENT STATUS OF CRITERIA AIR POLLUTANTS IN YOLO COUNTY

Pollutant	State	Federal
Ozone – 1-hour	Nonattainment	NA
Ozone – 8-hour	Nonattainment -Transitional	Nonattainment
PM ₁₀	Nonattainment	Unclassified
PM _{2.5}	Unclassified	Attainment ^a
CO	Attainment	Unclassified/Attainment
NO ₂	Attainment	Attainment
SO ₂	Attainment	Attainment
Lead	Attainment	Attainment
All others	Attainment	NA

Notes:

^a. On May 10, 2017, EPA found that the area attained the 2006 PM_{2.5} standard by the attainment date of December 31, 2015 (82FR21711).

Source: Yolo-Solano AQMD 2007; CARB 2019

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project area are best documented by measurements taken by the Yolo-Solano AQMD. Yolo-Solano AQMD maintains four monitoring stations within the county. The air quality monitoring station closest to the proposed project is the University of California Davis (UC Davis) Monitoring Station. Table 4.2-4, *Ambient Air Quality Monitoring Summary*, shows that the area regularly exceeds the state and federal eight-hour O₃ standards.

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TABLE 4.2-4 AMBIENT AIR QUALITY MONITORING SUMMARY

Pollutant/Standard	Number of Days Thresholds Were Exceeded and Maximum Levels ^a				
	2016	2017	2018	2019	2020
Ozone (O₃)					
State 1-Hour ≥ 0.09 ppm (days exceed threshold)	0	0	1	0	0
8-hour ≥ 0.070 ppm (days exceed threshold)	1	1	1	0	0
Max. 1-Hour Conc. (ppm)	0.083	0.078	0.107	0.077	0.090
Max. 8-Hour Conc. (ppm)	0.072	0.071	0.080	0.066	0.068
Nitrogen Dioxide (NO₂)					
State 1-Hour ≥ 0.18 ppm (days exceed threshold)	0	0	0	0	0
Federal 1-Hour ≥ 0.100 ppm (days exceed threshold)	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.0382	0.0281	0.0387	0.0314	0.0217
Fine Particulates (PM_{2.5})					
Federal 24-Hour > 35 µg/m ³ (days exceed threshold)	*	*	*	*	*
Max. 24-Hour Conc. (µg/m ³)	30.5	59.2	184.7	49.6	132.3

Notes: May include exceptional events (e.g., wildfires)

ppm: parts per million; parts per billion, µg/m³: micrograms per cubic meter

a. Data from the UC Davis Monitoring Station.

* Data not available.

Source: CARB 2021b

Existing Emissions

Table 4.2-5, *Downtown Davis Specific Plan Existing Criteria Air Pollutant Emissions*, summarizes existing emissions associated with the Specific Plan area. The existing land uses currently generate criteria air pollutant emissions from natural gas use for energy, heating, and cooking; vehicle trips; and area sources, such as landscaping equipment and consumer cleaning products.

TABLE 4.2-5 DOWNTOWN DAVIS SPECIFIC PLAN EXISTING CRITERIA AIR POLLUTANT EMISSIONS

Source	Operation-Related Regional Emissions (tons per year)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Annual Emissions						
Area	10	<1	5	<1	<1	<1
Energy ^a	<1	4	3	<1	<1	<1
Mobile ^b	48	72	370	1	54	15
Total	58	76	378	1	54	16
Daily Emissions^c						
Source	Operation-Related Regional Emissions (pounds per day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Area	7	<1	8	<1	<1	<1
Energy ^a	<1	1	1	<1	<1	<1
Mobile ^b	5	9	51	<1	14	4
Total	13	11	60	<1	15	4

Notes:

a. Based on the historical CalEEMod energy rates, which are based on the 2005 Building Energy Efficiency Standards.

b. Based on year 2019 emissions data and vehicle trips and VMT provided by Fehr & Peers.

c. Based on highest winter or summer emissions.

Source: CalEEMod 2020.4.0

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Sensitive Receptors

Some land uses are considered more sensitive to air pollution (e.g., TACs) than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. Residential areas are considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, hospitals, and schools. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, because the majority of the workers tend to stay indoors. In addition, the workforce is generally the healthiest segment of the population. For CEQA purposes, a sensitive receptor is generically defined as a location where human populations, especially children, seniors, or sick persons are found, and there is reasonable expectation of continuous human exposure according to the averaging period for the AAQS (e.g., 24-hour, 8-hour, 1-hour). Sensitive receptors for the project include the residential, senior care living, and elementary school/preschool (e.g., Davis Community Church Nursery School) land uses that occur throughout the Specific Plan area, and those that are outside of, but close to the Specific Plan area. In addition to the Davis Community Church Nursery School, other sensitive receptors include existing residential units located throughout the Specific Plan area and the adjacent residential neighborhoods.

4.2.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant air quality impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. 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.
3. Expose sensitive receptors to substantial pollutant concentrations.
4. Result in other emissions (such as those leading odors) adversely affecting a substantial number of people.

Yolo-Solano AQMD Thresholds

Criteria Air Pollutant Emissions

CEQA allows the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on air quality. Yolo-Solano AQMD has established thresholds of significance for regional air quality emissions for construction activities and project operation based on substantial evidence. Yolo-Solano AQMD has adopted regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in SVAB, shown in Table 4.2-6, *Yolo-Solano AQMD Significance Thresholds*. The table lists thresholds that are applicable for

all projects uniformly, regardless of size or scope. As identified by the Yolo-Solano AQMD, any proposed project that would individually have a significant air quality impact (see Table 4.2-6) would also be considered to have a significant cumulative impact.

TABLE 4.2-6 YOLO-SOLANO AQMD SIGNIFICANCE THRESHOLDS

Air Pollutant	Construction Phase
Reactive Organic Gases (ROGs)/Volatile Organic Compounds (VOCs)	10 tons per year
Nitrogen Oxides (NO _x)	10 tons per year
Particulates (PM ₁₀)	80 lbs/day
Particulates (PM _{2.5})	NA

Source: Yolo-Solano AQMD 2007

Construction Fugitive Dust

Most land use projects require some earthmoving during the project's construction phase. Without control, dust emissions from grading, trenching, or land clearing can create nuisances or localized health impacts. Even projects not exceeding district PM thresholds should implement best management practices to reduce dust emissions and avoid localized health impacts.

Health Effects of Exceeding the Criteria Air Pollutant Thresholds

Projects that exceed the regional significance threshold contribute to the nonattainment designation of the SVAB. The attainment designations are based on the AAQS, which are set at levels of exposure that are determined to not result in adverse health effects. Yolo-Solano AQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals exposed to elevated concentrations of air pollutants in the SVAB and has established thresholds that would be protective of these individuals. To achieve the health-based standards established by the EPA, Yolo-Solano AQMD prepares air quality management plans that detail regional programs to attain the AAQS. Mass emissions in Table 4.2-6 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality impacts in the SVAB. The thresholds are based on the trigger levels for the federal New Source Review Program. This program was created to ensure projects are consistent with attainment of health-based federal AAQS. Regional emissions from a single project do not single-handedly trigger a regional health impact, and it is speculative to identify how many more individuals in the air basin would be affected by the health effects listed above. Projects that do not exceed the Yolo-Solano AQMD regional significance thresholds in Table 4.2-6 would not violate any air quality standards or contribute substantially to an existing or projected air quality violation.

If projects exceed the emissions in Table 4.2-6, emissions would contribute to the cumulative nonattainment status and would contribute to elevating health effects associated to these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible health effects related to criteria air pollutants. However, for projects that

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exceed the emissions in Table 4.2-6, it would be speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the air basin would be affected by the health effects cited above.

Yolo-Solano AQMD has not provided methodology to assess the specific correlation between mass emissions generated and the effect on health in order to address the issue raised in *Sierra Club v. County of Fresno* (Friant Ranch, L.P.) (2018) 6 Cal.5th 502, Case No. S21978. However, the Sacramento Metropolitan Air Quality Management District (SMAQMD) released its *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District* in October 2020 (SMAQMD 2020). This guidance document was developed with input from Yolo-Solano AQMD, Placer County Air Pollution Control District, El Dorado County Air Quality Management District, and Feather River Air Quality Management District. These air districts, in addition to SMAQMD, comprises the SFNA and the Five-Air-District Region. While the Friant Ranch guidance document is intended for use in the SMAQMD area, it contains information that can be used by the other SFNA air districts to set guidance.

The Friant Ranch guidance document provides insight on the health effects that may result from a project emitting at the maximum thresholds of significance (TOS) levels in the Five-Air-District Region for NO_x, VOCs, PM, CO, and SO_x. It includes two look-up tables for estimating health effects for strategic areas where growth exceeding the TOS level is anticipated. For purposes of the look-up tables, a TOS level of 82 lbs/day, which represents the highest TOS level between the thresholds established by the SFNA air districts, is utilized. The Minor Project Health Effects Screening Tool uses the location of a project to estimate interpolated health effects based on the TOS level of 82 lbs/day and the health effects of 41 hypothetical sources. The Strategic Area Project Screening Modeling tool uses the NO_x, VOC, and PM_{2.5} emissions of a project to interpolate health effects based on the health effects of six potential strategic area project locations at levels two and eight times the 82 lbs/day TOS level. The health effects of criteria pollutant emissions at the TOS level are conservative estimates that can be used in environmental documents.

CO Hotspots

CO impacts are cumulatively significant when modeling shows that the combined emissions from the project and other existing and planned projects (i.e., background concentration) will exceed the California AAQS. A screening approach can be used to estimate whether a project's traffic impact would cause a potential CO hotspot at any given intersection. Under the Yolo-Solano AQMD Handbook, if either of the following criteria is true of any intersection affected by the project traffic, then the project can be said to have the potential to create a violation of the CO standard:

- A traffic study for the project indicates that the peak-hour Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to an unacceptable LOS (typically LOS E or F); or
- A traffic study indicates that the project will substantially worsen an already existing peak-hour LOS F on one or more streets or at one or more intersections in the project vicinity. "Substantially worsen" includes situations where delay would increase by 10 seconds or more when project-generated traffic is included.

With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology, the SVAB is in attainment of the California and National AAQS, and CO concentrations in the SVAB have steadily declined. Further, because CEQA no longer considers LOS as a metric to measure transportation impacts, an LOS study was not prepared. Thus, for purposes of this analysis, because CO concentrations have improved, the screening criteria developed by the Bay Area Air Quality Management District (BAAQMD) is used to assess potential CO hotspot impacts. Per the Yolo-Solano AQMD Handbook, the CO hotspot shown in the handbook is based on the screening approach devised by the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD). However, the SJVUAPCD screening recommendations is based on the 1997 CO Hotspots Protocol established in 1997. The CO hotspot discussion in this section refers to the modeling conducted by BAAQMD because it is based on newer data and considers the improvement in mobile-source CO emissions.

The methodology utilized by BAAQMD to demonstrate that CO hotspots are no longer a localized air quality impact of concern are directly applicable to the CO hotspot analysis. Although meteorological conditions in the Bay Area differ from that in inland areas, the modeling conducted by BAAQMD demonstrates that the net increase in peak hour traffic volumes at an intersection in a single hour would need to be substantially high. Per BAAQMD's methodology, under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection to more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (BAAQMD 2017).

Plan-Level Consistency

General Plans of cities and counties must show consistency with the Yolo-Solano AQMD's AQAP and SIP strategies in order to claim a less than significant impact on air quality. This is because the air quality planning process estimates growth in emissions based on different indicators and emission growth is offset by regional controls on sources of air pollution. General plan amendments, redevelopment plans, specific plans, annexations of lands and services, and similar planning activities should receive the same scrutiny as general plans with respect to consistency with the AQAP and SIP.

Toxic Air Contaminants

Proposed development projects that have the potential to expose the public to TACs from stationary sources in excess of the following thresholds would be considered to have a significant air quality impact. These thresholds are based on the Yolo-Solano AQMD's Risk Management Policy.

- Probability of contracting cancer for the Maximally Exposed Individual (MEI) equals to 10 in one million or more.
- Ground-level concentrations of non-carcinogenic toxic air contaminants would result in a Hazard Index equal to 1 for the MEI or greater.

Odors

While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the Yolo-Solano AQMD. The general nuisance rule (Health and Safety Code §41700 and Yolo-Solano

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AQMD Rule 2.5) is the basis for this threshold. A project may reasonably be expected to have a significant adverse odor impact where it “generates odorous emissions in such quantities as to cause detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which may endanger the comfort, repose, health, or safety of any such person or the public, or which may cause, or have a natural tendency to cause, injury or damage to business or property.”

4.2.3 IMPACT DISCUSSION

4.2.3.1 METHODOLOGY

This air quality evaluation was prepared in accordance with the requirements of CEQA to determine if significant air quality impacts are likely to occur in conjunction with future development that would be accommodated by the proposed Downtown Davis Specific Plan. Yolo-Solano AQMD has published the Handbook for Assessing and Mitigating Air Quality Impacts (Handbook) that provides local governments with guidance for analyzing and mitigating air quality impacts and was used in this analysis. The Downtown Davis Specific Plan Area criteria air pollutant emissions inventory includes the following sectors:

- **Transportation.** Based on the trip generation and VMT data provided by Fehr and Peers, Inc. (see Appendix 4.13-1 of this Draft EIR). An average trip distance of 4.57 and 4.73 miles per trip are utilized for the existing and project buildout scenarios, respectively. Based on the estimated 85,253 average daily trips (ADT) generated under existing conditions and the 102,252 ADTs generated under full buildout conditions, approximately 389,697 vehicle miles per day are generated currently and 483,717 vehicle miles per day would be generated under full buildout conditions under the proposed Downtown Davis Specific Plan (see Table 3-3 in Chapter 3.0, Project Description).
- **Area Sources.** Area sources generated from use of consumer products and cleaning supplies are based on CalEEMod default emission rates and on the assume building square footages. For fireplaces, pursuant to Yolo-Solano AQMD Rule 2.40, it is assumed that new proposed multifamily residential dwelling units are either equipped with gas fireplaces or no fireplaces.
- **Energy.** Criteria air pollutant emissions from energy use (natural gas used for cooking, heating, etc.) are based on the CalEEMod defaults for natural gas usage by residential and nonresidential land uses. This analysis is considered conservative in that it does not assume higher standards that may be required or encourage. New buildings are assumed to comply with the 2019 Building Energy Efficiency Standards. Existing buildings and residential units are assumed to comply with the 2005 Building Energy Efficiency Standards. The default CalEEMod energy rates, which are based on the 2019 Building Energy Efficiency Standards, are used for the proposed uses. For existing uses, the CalEEMod historical energy rates, which are based on the 2005 Building Energy Efficiency Standards, are used.

4.2.3.2 PLANS, PROGRAMS, AND POLICIES

Downtown Davis Specific Plan

The Downtown Davis Specific Plan contains the following implementation actions which would contribute to reductions in impacts on air quality in the Specific Plan Area:

Table 8D, Implementation Actions: Circulation (Bicycle, Pedestrian, Transit, Streetscape)

- **Action 1:** Implement a Layered Network Approach to Street Design with Defined Modal Priorities.
 - **Methodology/Step 1A:** Design the street network to make bicycling, walking and using transit safe and comfortable for everyone.
 - **Methodology/Step 1B:** Design all streets to ensure that they are readily accessible to and usable by all users, especially individuals with disabilities.
 - **Methodology/Step 1C:** Design all streets as public spaces as well as corridors for multimodal movement.
 - **Methodology/Step 1D:** Design all streets to maximize opportunities to support natural ecosystems and urban greenery; protecting existing trees, planting new trees, and incorporating shade strategies wherever feasible.
 - **Methodology/Step 1E:** Design the street network to accommodate the movement and transfer of goods to support the basic functions and operations of downtown businesses.
 - **Methodology/Step 1F:** Design all streets with safety of all users as a top priority and to minimize multimodal conflicts.
 - **Methodology/Step 1H:** Adopt a fair-share transportation impact fee for new development to raise funds for improving all modes of transportation.
- **Action 2:** Implement a Pedestrian Network That Enhances Walkability in Downtown.
 - **Methodology/Step 2B:** Continue to upgrade existing pedestrian crossings to reduce pedestrian exposure to competing modes and increase pedestrian visibility to conflict zones.
 - **Methodology/Step 2C:** Construct wide pedestrian through-zones (10 to 15 feet) in locations with high pedestrian volumes.
 - **Methodology/Step 2E:** Eliminate existing and minimize future driveways and curb cuts along major pedestrian corridors, to the extent feasible.
- **Action 3:** Implement a “Low-Stress” Bicycle Network in Downtown.
 - **Methodology/Step 3A:** Continue to improve the network of high-quality, well-connected bicycle facilities serving the Downtown.
 - **Methodology/Step 3B:** Continue to upgrade existing bicycle crossings to reduce bicyclist exposure to competing travel modes and increase bicyclist visibility in conflict zones.
 - **Methodology/Step 3C:** Eliminate existing and minimize future driveways and curb cuts along major bicycle corridors, to the extent feasible.
 - **Methodology/Step 3D:** Monitor bicycle parking demand and increase short- and long-term bicycle parking supply in the public realm, as warranted.
 - **Methodology/Step 3E:** Continue to support the operations and expansion of bicycle share programs and related infrastructure.

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- **Methodology/Step 3F:** Update the General Plan Circulation Element to include strategies to connect the Plan Area priority bicycle network with neighboring districts to establish a continuous bicycle network with safe and efficient connections to destinations within the Plan Area and throughout the City.
- **Methodology/Step 3G:** Commit a minimum amount of funding towards bicycle facility improvements in the Plan Area.
- **Methodology/Step 3H:** Prioritize and phase bicycle network improvements in coordination with other Plan Area improvements.
- **Action 4:** Implement Transit Network Improvements in Downtown.
 - **Methodology/Step 4A:** Review and expand local transit services, as warranted by demand.
 - **Methodology/Step 4B:** Implement transit network improvements along identified transit priority corridors.
 - **Methodology/Step 4C:** Coordinate with Unitrans and YoloBus to explore potential transit network design strategies that would improve route directness, travel times, and service quality for bus routes serving the Plan Area.
 - **Methodology/Step 4D:** Enhance transit stop amenities to include benches, shelters, and real-time arrival information.
 - **Methodology/Step 4E:** Implement multimodal access improvements identified in the ongoing Davis Train Depot Access Study.
- **Action 5:** Implement Vehicular Network Improvements in Downtown.
 - **Methodology/Step 5F:** Utilize vehicle miles traveled per capita (VMT) as the primary metric for evaluating transportation impacts.
 - **Methodology/Step 5G:** Partner with UC Davis to explore TDM strategies that would reduce peak hour vehicle trips through Downtown.

Table 8E, Implementation Actions: Parking and Transportation Demand Management

- **Action 3:** Regulate Private Development.
 - **Methodology/Step 3A:** Remove minimum parking requirements.
 - **Methodology/Step 3B:** Set maximum parking requirements.
 - **Methodology/Step 3C:** Require unbundling of parking costs from the cost of other goods and services.
 - **Methodology/Step 3D:** Require Transportation Demand Management (TDM) plans and set performance standards for reducing motor vehicle trips from new developments.
 - **Methodology/Step 3E:** Require provision of spaces for carshare vehicles and carpools when parking is provided.
 - **Methodology/Step 3F:** Require parking cash-out programs.
 - **Methodology/Step 3G:** Require provision of free transit passes to residents and employees.
 - **Methodology/Step 3H:** Require membership in Transportation Management Association.
 - **Methodology/Step 3I:** Monitor ongoing efforts and results at the Plan Area level and the development-specific level.

- **Action 4:** Improve Transportation Choices.
 - **Methodology/Step 4A:** Strengthen the existing countywide Transportation Management Association serving Davis.
 - **Methodology/Step 4B:** Establish deep-discount group transit pass program.
 - **Methodology/Step 4C:** Review and expand local transit networks.
 - **Methodology/Step 4D:** Continue improving bicycling facilities and programs.

Table 8F, Implementation Actions: Infrastructure

- **Action 1:** Explore Green Infrastructure Strategies in Downtown Streetscape Improvements.
 - **Methodology/Step 1A:** Include Green Infrastructure (GI) where possible, as part of public realm and streetscape improvements.
 - **Methodology/Step 1B:** Coordinate GI improvements with other planned improvements, primarily those related to transportation, for maximum efficacy.

Table 8H, Implementation Actions: Sustainability

- **Action 1:** Electrify Downtown Buildings by 2040, With Exceptions as Deemed Necessary
 - **Methodology/Step 1B:** Transition all restaurants, commercial, office and residential uses to electric space and water heating, appliances, etc., including heat pumps for new or replacement boilers and other energy efficient technology.
 - **Methodology/Step 1C:** Incentivize new and emerging technologies in building design and energy efficiency for new and retrofit projects.
 - **Methodology/Step 1D:** Require net zero energy for new and retrofit construction, beyond current Title 24 and CALGreen requirements.
 - **Methodology/Step 1E:** Implement energy production (e.g. solar) requirements on all buildings (residential and non- residential/commercial) where not currently required.
 - **Methodology/Step 1F:** Explore collaboration with UC Davis' plans for district heating system.
- **Action 2:** Create a Downtown that is Microgrid and Storage-Ready.
 - **Methodology/Step 2A:** Coordinate microgrid feasibility and planning with local utilities.
 - **Methodology/Step 2B:** Consider electric vehicle (EV) fleet as part of electric load demand management.
 - **Methodology/Step 2C:** Embed microgrid and storage requirements in zoning, building codes.
- **Action 3:** Create a Carbon Mitigation Fund.
 - **Methodology/Step 3A:** Municipal fund: Cost savings from energy efficiency and greenhouse gas (GHG) savings go into fund to be used to spur further investments in reducing energy use.
 - **Methodology/Step 3B:** Residential/commercial fund: Implement developer impact fees (See Utility Rate Advisory Commission (URAC) resolution for recommended language on districtwide mitigation fund).
- **Action 4:** Aim to Electrify All Fuel-Dependent Downtown Transportation by 2040.
 - **Methodology/Step 4A:** Plan for electric vehicle (EV) charging for all vehicles (personal, shared, commercial, bus/ shuttle), and ensure electrical infrastructure to handle loads.
 - **Methodology/Step 4B:** Aim to fully electrify City of Davis fleet and Unitrans fleet.
 - **Methodology/Step 4C:** Embed EV infrastructure requirements in zoning, building codes.

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4.2.3.3 IMPACT ANALYSIS

AQ-1	Implementation of the Downtown Davis Specific Plan would exceed the regional significance thresholds and conflict with or obstruct implementation of the applicable air quality plan.

Air Quality Attainment Plan Consistency

Pursuant to the Yolo-Solano AQMD's Handbook for Assessing and Mitigating Air Quality Impacts, plan-level projects should discuss any inconsistencies with the AQAP and SIP strategies. This is because the air quality planning process estimates growth in emissions based on different indicators and emission growth is offset by regional controls on sources of air pollution. General plan amendments, redevelopment plans, specific area plans, annexations of lands and services, and similar planning activities have the potential to increase growth estimates; and therefore, have the potential to conflict with the AQAP if growth is not consistent with rules adopted by the Yolo-Solano AQMD.

Regional air quality plans are developed to meet requirements of both the federal and California CAAs. The federal CAA requires that areas not attaining the air quality standards develop an attainment plan demonstrating how control strategies help the area meet reasonable further progress goals and attain the air quality standard. The Yolo-Solano AQMD is included in the Sacramento Federal Non-attainment (SFNA) Area by the USEPA for ozone and particulate matter.

The Yolo-Solano AQMD has prepared several AQAPs to attain the one-hour and eight-hour federal AAQS. The latest ozone attainment plan for the current 8-hour ozone standard (2015 standard) is the Yolo-Solano AQMD Reasonably Available Control Technology (RACT) SIP analysis, which was approved by the Yolo-Solano AQMD's Board of Directors on September 9, 2020 (Yolo-Solano AQMD 2021a). The Yolo-Solano AQMD updates the AQAP for attaining and maintaining state ambient air quality standards for ozone every three years. The most recent adopted AQAP triennial plan (May 2019) covers the years 2015-2017 (Yolo-Solano AQMD 2021a). Table 4.2-7, *Ozone Control Measures*, shows that the proposed project would be consistent with the measures in the Triennial AQAP for ozone.

TABLE 4.2-7 OZONE CONTROL MEASURES

Control Measure	Consistency Evaluation
Rule 2.22 – Gasoline Dispensing Facilities	Consistent. Permitting of gasoline dispensing facilities would be regulated directly by Yolo-Solano AQMD. Thus, any new gasoline dispensing facilities that would be accommodated under the proposed project would be required to comply with Yolo-Solano AQMD Rule 2.22 and meet the rule requirements in order to be permitted to operate.
Rule 2.21 – Organic Liquid Storage and Transfer	Not Applicable. The proposed project would not accommodate industrial land uses. However, any future land uses subject to this rule would be required to comply to its provisions.
Rule 2.31 – Solvent Cleaning and Degreasing	Not Applicable. The proposed project would not accommodate industrial land uses. However, any future land uses subject to this rule would be required to comply to its provisions.

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TABLE 4.2-7 OZONE CONTROL MEASURES

Control Measure	Consistency Evaluation
Rule 2.14 – Architectural Coatings	Consistent. Future individual development projects developed under the proposed project would be required to comply with the provisions of Yolo-Solano AQMD Rule 2.14. Additionally, Rule 2.14 is applicable to sellers, suppliers, and manufacturers of paints and solvents and these entities would be required to comply with the Rule’s applicable provisions pertaining to the VOC content.
Rule 11.1 – Agricultural Operating Permit Program	Not Applicable. The proposed project would not accommodate agricultural land use types. However, any future land uses subject to this rule would be required to comply to its provisions.
Rule 11.2 – Confined Animal Facilities Permit Program	Not Applicable. The proposed project would not accommodate agricultural land use types. However, any future land uses subject to this rule would be required to comply to its provisions.
Rule 11.3 – Agricultural Engine Registrations	Not Applicable. The proposed project would not accommodate agricultural land use types. However, any future land uses subject to this rule would be required to comply to its provisions.
Rule 2.27 – Boilers, Steam Generators, and Process Heaters	Consistent. All future individual projects accommodated under the proposed project that would install a boiler, steam generator, or process heaters with rated heat inputs of greater than or equal to five million British thermal units (BTU) per hour would be subject to the permitting requirements of Yolo-Solano AQMD Rule 2.27. Additionally, the proposed Specific Plan includes Implementation Action 1A under Table 8H that directs for the transition of new or replacement boilers to electric-powered and other energy efficient technology.
Rule 2.32 – Stationary Internal Combustion Engines	Consistent. All future individual projects accommodated under the proposed project that would install stationary equipment subject to this rule would be required to comply with its provisions.

Source: Yolo-Solano AQMD 2019

For PM_{2.5}, the Yolo-Solano AQMD and the other air districts of the region prepared a PM_{2.5} Maintenance Plan in 2013. However, Yolo-Solano AQMD is now designated as attainment for the 2006 PM_{2.5} standard on May 10, 2017 (Yolo-Solano AQMD 2021c). Table 4.2-8, *PM_{2.5} Control Measures*, shows that the proposed project would be consistent with the PM_{2.5} control measures.

TABLE 4.2-8 PM_{2.5} CONTROL MEASURES

Control Measure	Consistency Evaluation
Rule 2.11 – Particulate Matter	Consistent. New future land uses accommodated under the proposed project would be subject to Yolo-Solano AQMD Rule 2.11.
Rule 2.12 – Specific Contaminants	Not Applicable. The proposed project would not accommodate industrial land uses. However, any future land uses subject to this rule would be required to comply to its provisions.
Rule 2.3 – Ringelmann Chart	Consistent. All future development projects accommodated under the Downtown Davis Specific Plan would be subject to Yolo-Solano AQMD Rule 2.3.

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TABLE 4.2-8 PM_{2.5} CONTROL MEASURES

Control Measure	Consistency Evaluation
Rule 2.37 – Natural Gas-Fired Water Heaters and Small Boilers	Consistent. All future individual projects accommodated under the proposed project that would install a boiler, steam generator, or process heaters with rated heat inputs of greater than or equal to one million BTU per hour would be subject to the permitting requirements of Yolo-Solano AQMD Rule 2.37.
Rule 2.40 – Wood-Burning Appliances	Consistent: All future development projects accommodated under the Downtown Davis Specific Plan would be subject to Yolo-Solano Rule 2.40.
Rule 2.42 – Nitric Acid Production	Not Applicable. The proposed project would not accommodate industrial land uses. However, any future land uses subject to this rule would be required to comply to its provisions.
Rule 2.44 – Central Furnaces	Consistent. The consistency discussions for Rule 2.27 and Rule 2.37, are also applicable for Rule 2.44.
Rule 11.2 – Confined Animal Facilities	Not Applicable. The proposed project would not accommodate agricultural land use types. However, any future land uses subject to this rule would be required to comply to its provisions.
Rule 11.3 – Agricultural Engine Registration	Not Applicable. The proposed project would not accommodate agricultural land use types. However, any future land uses subject to this rule would be required to comply to its provisions.

Source: Yolo-Solano AQMD 2013

As identified above, the Downtown Davis Specific Plan would generally be consistent with the applicable control measures. In addition, the Downtown Davis Specific Plan would result in an increase in development intensity in Downtown Davis and includes goals that focus on creating compact neighborhoods and improving multimodal networks that would contribute to minimizing motor vehicle trips and VMT. This type of growth would be consistent with the AQAP. However, the project would represent a substantial increase in emissions compared to existing conditions. The estimated long-term emissions generated under full buildout of the Downtown Davis Specific Plan would exceed the Yolo-Solano-AQMD's regional operational significance thresholds (see Table 4.2-9) and would cumulatively contribute to the nonattainment designations in the SVAB. Therefore, the proposed project would be considered inconsistent with the AQAP, resulting in a potentially significant impact in this regard.

Significance Without Mitigation: Potentially significant.

Mitigation Measures

Impact AQ-1: The Downtown Davis Specific Plan would result in growth in which the associated long-term emissions would exceed the Yolo-Solano AQMD regional significance thresholds and would not be consistent with the AQAP.

There are no feasible mitigation measures.

Significance With Mitigation: Significant and unavoidable.

No additional mitigation measures are identified beyond the Downtown Davis Specific Plan goals, policies, and implementation actions. The proposed goals, policies, and implementation actions would reduce air pollutant emissions to the extent feasible. However, this impact would remain significant and unavoidable due to the magnitude of the overall land use development that would be accommodated under the Downtown Davis Specific Plan.

AQ-2 Construction and operation of the proposed project would 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.

Construction

Construction activities would temporarily increase criteria air pollutant emissions within the SVAB. The primary source of NO_x emissions is the operation of construction equipment. The primary sources of particulate matter (PM₁₀ and PM_{2.5}) emissions are activities that disturb the soil, such as grading and excavation, road construction, and building demolition and construction. The primary sources of ROG emissions are the application of architectural coating and off-gas emissions associated with asphalt paving. A discussion of health impacts associated with air pollutant emissions generated by construction activities is included under Section 4.2.1.1, *Air Pollutants of Concern*.

Construction activities associated with the potential future development from implementation of the proposed Downtown Davis Specific Plan would occur over the buildout horizon, causing short-term emissions of criteria air pollutants. Information regarding specific development projects, soil types, and the locations of receptors would be needed to quantify the level of impact associated with construction activity. When applicable, potential future development under the proposed project would be subject to separate environmental review pursuant to CEQA to identify and mitigate potential air quality impacts. Any such subsequent environmental review of development projects would be required to assess potential impacts under Yolo-Solano AQMD's project-level thresholds based on site-specific construction phasing and buildout characteristics. However, due to the overall scale of development activity associated with buildout of proposed project, cumulative emissions would likely exceed the Yolo-Solano AQMD regional significance thresholds. In accordance with the Yolo-Solano AQMD methodology, emissions that exceed the regional significance thresholds would cumulatively contribute to the nonattainment designations of the SVAB. Emissions of ROG and NO_x are precursors to the formation of ozone. In addition, NO_x is a precursor to the formation of ozone. Therefore, construction-related regional air quality impacts associated with implementation of the proposed project are considered potentially significant and would cumulatively contribute to the nonattainment designations of the SVAB for ozone and particulate matter during construction.

Significance Without Mitigation: Potentially significant.

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Mitigation Measures

Impact AQ-2.1: Construction activities associated with implementation of the Downtown Davis Specific Plan could potentially violate an air quality standard or cumulatively contribute to an existing or projected air quality violation.

Mitigation Measure AQ-2.1: Prior to discretionary approval by the City of Davis for development projects subject to CEQA (California Environmental Quality Act) review, project applicants shall prepare and submit an assessment evaluating potential project construction-related air quality impacts to the City of Davis for review and approval. The evaluation shall be prepared in conformance with Yolo-Solano Air Quality Management District (Yolo-Solano AQMD) methodology (e.g., Yolo-Solano AQMD *Handbook for Assessing and Mitigating Air Quality Impacts*) for assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the Yolo-Solano AQMD's adopted thresholds of significance, the City of Davis shall require that the applicants incorporate mitigation measures to reduce air pollutant emissions during construction activities. These identified measures shall be incorporated into appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City. Mitigation measures to reduce construction-related emissions could include, but are not limited to:

- Require the Yolo-Solano AQMD best management practices for fugitive-dust control:
 - Water all active construction sites at least twice daily. Frequency should be based on the type of operation, soil, and wind exposure.
 - Haul trucks shall maintain at least two feet of freeboard.
 - Cover all trucks hauling dirt, sand, or loose materials.
 - Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydroseed area.
 - Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days).
 - Plant tree windbreaks on the windward perimeter of construction projects if adjacent to open land.
 - Plant vegetative ground cover in disturbed areas as soon as possible.
 - Cover inactive storage piles.
 - Sweep streets if visible soil material is carried out from the construction site.
 - Treat accesses to a distance of 100 feet from the paved road with a 6-to-12-inch layer of wood chips or mulch.
 - Treat accesses to a distance of 100 feet from the paved road with a 6-inch layer of gravel.
- Use construction equipment rated by the United States Environmental Protection Agency as having Tier 4 (model year 2008 or newer) emission limits, applicable for engines between 50 and 750 horsepower.

- Ensure that construction equipment is properly serviced and maintained to the manufacturer's standards.
- Limit nonessential idling of construction equipment to no more than five consecutive minutes.
- Limit on-site vehicle travel speeds on unpaved roads to 15 miles per hour.
- Install wheel washers for all exiting trucks or wash off all trucks and equipment leaving the project area.

Significance With Mitigation: Significant and Unavoidable.

Buildout of the proposed project would occur over approximately 20 years or longer. Construction activities associated with buildout of the Specific Plan could generate short-term emissions that exceed the Yolo-Solano AQMD'S significance thresholds during this time and cumulatively contribute to the nonattainment designations of the SVAB. Implementation of Mitigation Measure AQ-2.1 would reduce criteria air pollutant emissions of VOC, NO_x, and PM₁₀ from construction-related activities to the extent feasible. However, construction time frames and equipment for individual site-specific projects are not available and there is a potential for multiple developments to be constructed at any one time, resulting in significant construction-related emissions. Therefore, despite adherence to Mitigation Measure AQ-2.1, the impact would remain significant and unavoidable and would cumulatively contribute to the nonattainment designations of the SVAB.

Contributing to the nonattainment status would also contribute to elevating health effects associated with these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Potential health effects from construction-related PM_{2.5}, VOC, and NO_x emissions are highlighted below and based on the scenario at which a project would generate these criteria air pollutants at 82 lbs/day.

Per the Minor Project Health Effects Screening Tool of the SMAQMD Friant Ranch guidance document, based on the Specific Plan location and the default TOS level of 82 lbs/day, the resulting estimated health effects related to PM_{2.5} emissions include the following (See Appendix 4.2, Minor Project Health Effects Screening Tool table, for more results and further details):

- Increasing asthma-related emergency room visits for the 0- to 99-year-old age range group by 0.17 incidence, or 0.00094 percent of the 18,419 total incidences for this category in the Five-Air-District Region.
- Increasing asthma-related hospital admissions for the 0- to 64-year-old age range group by 0.011 incidence, or 0.00059 percent of the total 1,846 incidences for this category in the Five-Air-District Region.
- Increasing respiratory-related hospital admissions for the 65- to 99-year-old age range group by 0.057 incidence, or 0.00029 percent of the total 19,644 incidences for this category in the Five-Air-District Region.

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- Increasing mortality for the 30- to 99-year-old age range group by 0.38 incidence, or 0.00084 percent of the total 44,766 incidences for this category in the Five-Air-District Region.

Estimated health effects related to VOC and NO_x, represented through the ozone health endpoint, include the following (See Appendix 4.2, Minor Project Health Effects Screening Tool table, for more results and further details):

- Increasing asthma-related emergency room visits for the 0- to 17-year-old age range group by 0.19 incidence, or 0.0033 percent of the 5,859 total incidences for this category in the Five-Air-District Region.
- Increasing asthma-related emergency room visits for the 18- to 99-year-old age range group by 0.30 incidence, or 0.0024 percent of the 12,560 total incidences for this category in the Five-Air-District Region.
- Increasing respiratory-related hospital admissions for the 65- to 99-year-old age range group by 0.034 incidence, or 0.00017 percent of the total 19,644 incidences for this category in the Five-Air-District Region.
- Increasing mortality for the 0- to 99-year-old age range group by 0.022 incidence, or 0.000072 percent of the total 30,386 incidences for this category in the Five-Air-District Region.

Operation

Buildout of the proposed Downtown Davis Specific Plan would result in direct and indirect criteria air pollutant emissions from transportation, energy (e.g., natural gas use), and area sources (e.g., aerosols and landscaping equipment). Mobile-source criteria air pollutant emissions are based on the traffic analysis conducted by Fehr and Peers (see Appendix 4.13-1 of this DEIR).

The Specific Plan goals include creating compact development that incorporates sustainable practices and infrastructure and creating a safe, connected multimodal network. Compact development would support more self-sustained communities where people live close to employment and entertainment opportunities. Guiding policies under this goal include enhancing Downtown's character with compact and infill development (Guiding Policy 2.1), incentivizing private developers to include energy efficient systems in new development and renovation and expansion projects that exceed City requirements (Guiding Policy 2.3), and prioritizing alternate transportation and encouraging a car-free lifestyle (Guiding Policy 2.4). Sustainability implementation actions include transitioning all restaurants, commercial, and residential uses to electric space and water heating and appliances; requiring net zero energy for new and retrofit construction beyond current Title 24 and CALGreen requirements; and implementing energy production requirements on all buildings (residential and non-residential/commercial) where not currently required. Other implementation actions include embedding electrification and microgrid and energy storage requirements in zoning and building codes See Tables 8C through 8H in the Downtown Davis Specific Plan for the complete list of the proposed implementation actions.

Guiding policies for the multimodal goal include making Downtown a place where most daily needs can be met without a car, and walking, cycling, and transit are the preferred modes of travel (Guiding Policy 6.1), improving transit service, electric shuttles, and similar modes (Guiding Policy 6.2), establishing a clear

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hierarchy of streets that balance vehicular traffic with the needs of pedestrians and cyclists (Guiding Policy 6.4), and eliminating minimum parking requirements for new developments in addition to expansions and renovations of existing development (Guiding Policy 6.9). Implementation actions for this goal include requiring transportation demand management plans and setting standards for reducing motor vehicle trips from new developments, reviewing and expanding local transit services where warranted by demand, implementing transit network improvements along identified transit priority corridors, designing the street network to make bicycling, walking, and using transit safe and comfortable for everyone, constructing wide pedestrian through-zones (10 to 15 feet) in locations with high pedestrian volumes, and continuing to improve the network of high-quality, well connected bicycle facilities serving the downtown. See Tables 8C through 8H in the Downtown Davis Specific Plan for the complete list of the proposed implementation actions.

Overall, the sustainability goal would contribute to reductions in natural gas use. In addition, both goals would contribute to reductions in vehicle trips and VMT per service population to the extent feasible compared to a no-project buildout scenario. However, when compared to the existing uses under the baseline year conditions, due to the magnitude of planned growth under the Specific Plan, implementation of the proposed project would generate a net increase of 16,999 ADT and 94,020 daily VMT (see Appendix 4.13-1). The results of the CalEEMod modeling are shown in Table 4.2-9, *Downtown Davis Specific Plan Criteria Air Pollutant Emissions*.

TABLE 4.2-9 DOWNTOWN DAVIS SPECIFIC PLAN CRITERIA AIR POLLUTANT EMISSIONS

Source	Operation-Related Regional Emissions (tons per year)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Annual Emissions						
Existing Emissions Year 2040						
Area	10	<1	5	<1	<1	<1
Energy ^a	<1	4	3	<1	<1	<1
Mobile ^b	20	32	188	<1	52	14
Total	30	36	196	<1	52	15
Proposed Project Year 2040						
Area	17	1	12	<1	<1	<1
Energy	1	5	4	<1	<1	<1
Mobile ^b	25	41	240	1	66	18
Total	43	47	256	1	67	19
Net Change						
Area	7	<1	8	<1	<1	<1
Energy	<1	1	1	<1	<1	<1
Mobile	5	9	51	<1	14	4
Total	13	11	60	<1	15	4
Yolo-Solano AQMD Regional Threshold	10	10	n/a	n/a	n/a	n/a
Exceeds Regional Threshold?	Yes	Yes	n/a	n/a	n/a	n/a

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TABLE 4.2-9 DOWNTOWN DAVIS SPECIFIC PLAN CRITERIA AIR POLLUTANT EMISSIONS

Source	Operation-Related Regional Emissions (tons per year)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Daily Emissions^d						
Existing Emissions Year 2040						
Area	75	6	69	<1	4	4
Energy ^a	2	20	16	<1	2	2
Mobile ^b	139	187	1,134	2	294	79
Total	216	212	1,218	3	299	85
Proposed Project Year 2040						
Area	116	16	155	<1	5	5
Energy	3	26	20	<1	2	2
Mobile ^b	177	238	1,444	3	375	101
Total	295	280	1,619	3	383	109
Net Change						
Area	41	10	86	<1	1	1
Energy	1	6	4	<1	<1	<1
Mobile ^a	38	52	310	1	81	22
Total	80	68	400	1	83	24
Yolo-Solano AQMD Regional Threshold	n/a	n/a	n/a	n/a	80	n/a
Exceeds Regional Threshold?	n/a	n/a	n/a	n/a	Yes	n/a

Notes:

a. Based on the historical CalEEMod energy rates, which are based on the 2005 Building Energy Efficiency Standards.

b. Based on year 2040 emissions data and vehicle trips and VMT provided by Fehr & Peers.

c. Based on the default CalEEMod energy rate, which are based on the 2019 Building Energy Efficiency Standards.

d. Based on highest winter or summer emissions.

Source: CalEEMod 2020.4.0

As shown in Table 4.2-9, due to the magnitude of the proposed growth, project operation at buildout would generate a net increase in air pollutant emissions that exceed Yolo-Solano AQMD's annual regional significance thresholds for VOC and NO_x and daily regional significance threshold for PM₁₀. The primary source of emissions would be from mobile sources. Emissions of VOC and NO_x that exceed the Yolo-Solano AQMD regional thresholds would cumulatively contribute to the O₃ nonattainment designation of the SVAB. Emissions of NO_x and PM₁₀ that exceed Yolo-Solano AQMD's regional significance thresholds would cumulatively contribute to the PM₁₀ nonattainment designation of the SVAB. Therefore, the project would result in a potentially significant impact because it would significantly contribute to the nonattainment designations of the SVAB.

Significance Without Mitigation: Potentially significant.

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Mitigation Measures

Impact AQ-2.2: Long-term emissions associated implementation of the Downtown Davis Specific Plan could potentially violate an air quality standard or cumulatively contribute to an existing or projected air quality violation.

There are no feasible mitigation measures.

Significance With Mitigation: Significant and unavoidable.

No additional mitigation measures are identified beyond the Downtown Davis Specific Plan goals, policies, and implementation actions. The proposed goals, policies, and implementation actions would reduce air pollutant emissions to the extent feasible. In general, execution of the implementation actions by the City would result in City requirements pertaining to minimizing single occupancy motor vehicle trips, increasing active and public transit use, increasing energy efficiency, and increasing electrification and renewable energy use to be placed upon future land use development projects accommodated under the Downtown Davis Specific Plan. Further, as shown in Table 4.2-10, *Net Change in Regional Emissions from Existing Baseline Year 2019*, compared to existing baseline year 2019 conditions, emissions of VOC, NO_x, CO, and SO_x are projected to decrease from current levels despite growth associated with the Downtown Davis Specific Plan. Additionally, while PM₁₀ and PM_{2.5} would still result in a net increase, the net increase would be lower than the net increase that would occur when compared to the existing buildout year 2040 conditions. Furthermore, as shown in Table 4.2-10, *Net Change in Regional Emissions From Existing Baseline Year 2019*, the net increase of 71 lbs/day for PM₁₀ emissions would be below the Yolo-Solano AQMD maximum daily significance threshold of 80 lbs/day.

TABLE 4.2-10 NET CHANGE IN REGIONAL EMISSIONS FROM EXISTING BASELINE YEAR 2019

Source	Operation-Related Regional Emissions (tons per year)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Annual Emissions						
Existing Emissions Baseline Year 2019						
Area	10	<1	5	<1	<1	<1
Energy ^a	<1	4	3	<1	<1	<1
Mobile ^b	48	72	370	1	54	15
Total	58	76	378	1	54	16
Proposed Project Year 2040						
Area	17	1	12	<1	<1	<1
Energy ^c	1	5	4	<1	<1	<1
Mobile ^d	25	41	240	1	66	18
Total	43	47	256	1	67	19
Net Change						
Area	7	<1	8	<1	<1	<1
Energy	<1	1	1	<1	<1	<1
Mobile ^a	(22)	(31)	(131)	(<1)	12	3
Total	(15)	(29)	(122)	(<1)	12	3
Yolo-Solano AQMD Regional Threshold	10	10	n/a	n/a	n/a	n/a
Exceeds Regional Threshold?	No	No	n/a	n/a	n/a	n/a

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TABLE 4.2-10 NET CHANGE IN REGIONAL EMISSIONS FROM EXISTING BASELINE YEAR 2019

Source	Operation-Related Regional Emissions (tons per year)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Daily Emissions^e						
Existing Emissions Baseline Year 2019						
Area	7	<1	8	<1	<1	<1
Energy ^a	<1	1	1	<1	<1	<1
Mobile ^b	5	9	51	<1	14	4
Total	13	11	60	<1	15	4
Proposed Project Year 2040						
Area	116	16	155	<1	5	5
Energy ^c	3	26	20	<1	2	2
Mobile ^d	177	238	1,444	3	375	101
Total	295	280	1,619	3	383	109
Net Change						
Area	40	10	86	<1	1	1
Energy	1	6	4	<1	<1	<1
Mobile	(125)	(157)	(776)	(1)	69	16
Total	(84)	(140)	(687)	(1)	71	18
Yolo-Solano AQMD Regional Threshold	n/a	n/a	n/a	n/a	80	n/a
Exceeds Regional Threshold?	n/a	n/a	n/a	n/a	No	n/a

Notes:

a. Based on the historical CalEEMod energy rates, which are based on the 2005 Building Energy Efficiency Standards.

b. Based on year 2019 emissions data and vehicle trips and VMT provided by Fehr & Peers.

c. Based on the default CalEEMod energy rate, which are based on the 2019 Building Energy Efficiency Standards.

d. Based on year 2040 emissions data and vehicle trips and VMT provided by Fehr & Peers.

e. Based on highest winter or summer emissions.

Source: CalEEMod 2020.4.0

However, this impact would remain *significant and unavoidable* due to the magnitude of the overall land use development that would be accommodated under the Downtown Davis Specific Plan. As mentioned, contributing to the nonattainment status would also contribute to elevating health effects. The previous discussed estimated health effects based on the SMAQMD Minor Project Health Effects Screening Tool are also applicable. In addition, per the Strategic Area Project Health Effects Tool, which utilizes the project's total daily net increase values shown in Table 4.2-9, and the V. Woodland strategic area location, estimated health effects from project PM_{2.5} emissions include the following (See the Strategic Area Project Health Effects Tool table in Appendix 4.2 of the DEIR for more results and further details):

- Increasing asthma-related emergency room visits for the 0- to 99-year-old age range group by 0.27 incidence, or 0.0014 percent of the 18,419 total incidences for this category in the Five-Air-District Region.
- Increasing asthma-related hospital admissions for the 0- to 64-year-old age range group by 0.017 incidence, or 0.0009 percent of the total 1,846 incidences for this category in the Five-Air-District Region.

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- Increasing respiratory-related hospital admissions for the 65- to 99-year-old age range group by 0.087 incidence, or 0.00044 percent of the total 19,644 incidences for this category in the Five-Air-District Region.
- Increasing mortality for the 30- to 99-year-old age range group by 0.57 incidence, or 0.0013 percent of the total 44,766 incidences for this category in the Five-Air-District Region.

Estimated ozone-related health effects associated with the net increase in VOC and NO_x emissions from implementation of the Downtown Davis Specific Plan include the following (See the Strategic Area Project Health Effects Tool table in Appendix 4.2 of the DEIR for more results and further details):

- Increasing asthma-related emergency room visits for the 0- to 17-year-old age range group by 0.33 incidence, or 0.0057 percent of the 5,859 total incidences for this category in the Five-Air-District Region.
- Increasing asthma-related emergency room visits for the 18- to 99-year-old age range group by 0.52 incidence, or 0.0041 percent of the 12,560 total incidences for this category in the Five-Air-District Region.
- Increasing respiratory-related hospital admissions for the 65- to 99-year-old age range group by 0.058 incidence, or 0.00030 percent of the total 19,644 incidences for this category in the Five-Air-District Region.
- Increasing mortality for the 0- to 99-year-old age range group by 0.037 incidence, or 0.000012 percent of the total 30,386 incidences for this category in the Five-Air-District Region.

AQ-3 Construction activities associated with implementation of the Downtown Davis Specific Plan would expose sensitive receptors to substantial criteria air pollutant concentrations.

Construction

Development that would be accommodated by the Downtown Davis Specific Plan could expose sensitive receptors to elevated pollutant concentrations during construction activities if emissions exceed the regional significance thresholds in Table 4.2-6. Buildout of the Specific Plan would occur over a period of approximately 20 years or longer and would comprise several smaller projects each with its own construction timeframe and construction equipment. In general, the phasing of individual projects and the site-specific construction activities would be necessary for a quantified project-level analysis. However, because these items are not known for this programmatic evaluation, conducting a quantified project-level analysis for land use development projects accommodated under the proposed Downtown Davis Specific Plan would be speculative. Because potential redevelopment could occur close to existing sensitive receptors and there is a potential for multiple projects to be constructed at any one time, the project has the potential to expose sensitive receptors to substantial pollutant concentrations.

Construction equipment exhaust combined with fugitive particulate matter emissions has the potential to expose sensitive receptors to substantial concentrations of criteria air pollutant emissions and result in a potentially significant impact.

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Significance Without Mitigation: Potentially significant.

Mitigation Measures

Impact AQ-3: Construction activities associated with potential future development could potentially expose sensitive receptors to substantial pollutant concentrations.

Mitigation Measure AQ-3: Implement Mitigation Measure AQ-2.1

Significance With Mitigation: Significant and unavoidable.

Similar to regional construction-related air quality impacts evaluated in Impact AQ-2, implementation of Mitigation Measure AQ-2.1 would reduce localized criteria air pollutant emissions of VOC, NO_x, and PM₁₀ from construction-related activities to the extent feasible. However, construction time frames and equipment for individual site-specific projects are not available and there is a potential for multiple developments to be constructed at any one time, resulting in significant construction-related emissions. Therefore, despite adherence to Mitigation Measure AQ-2.1, the localized construction-related air quality impacts would be significant and unavoidable.

Operation

Toxic Air Contaminants

The Downtown Davis Specific Plan would not result in the development of individual land uses that generate substantial quantities of onsite, stationary emissions. Land uses that have the potential to generate substantial emissions would require a permit from Yolo-Solano AQMD and include industrial land uses, such as chemical processing, and warehousing operations where substantial truck idling could occur onsite. However, the proposed project would not result in an increase in industrial land uses and these types of industrial land uses are not proposed under the Specific Plan. While operation of residential and nonresidential structures would include occasional use of landscaping equipment, natural gas consumption for heating, and truck idling for vendor deliveries, emissions generated from these activities are nominal. Furthermore, land uses such as dry cleaners and gasoline stations, which would be smaller sources of TACs, would be subject to Yolo-Solano AQMD's new source review permitting process under Regulation III, which would control for and minimize emissions of TACs. Therefore, operation-related localized impacts as it pertains to TACs would be less than significant.

Significance Without Mitigation: Less than significant.

CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. With the

turnover of older vehicles and introduction of cleaner fuels, as well as implementation of control technology on industrial facilities, CO concentrations in the SVAB and the state have steadily declined.

The SVAB is designated in attainment for CO under both the California AAQS and National AAQS. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection to more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact.¹ Development that would be accommodated by the Downtown Davis Specific Plan would not produce the volume of traffic at any one intersection required to generate a CO hot spot. While implementation of the proposed Downtown Davis Specific Plan could result in an average daily traffic volume of 50,820 ADTs at the intersection of 1st Street, E Street, and Richards Boulevard, the peak hour volume would be substantially less (see Appendix 4.13-1). Based on the industry standard utilized in transportation/traffic analyses, peak hour volumes generally represent 10 percent of total average daily volumes. Therefore, the peak hour volume at this intersection would be about 5,082 peak hour trips and would not exceed the CO hotspot screening levels. Therefore, localized air quality impacts related to CO hot spots would be less than significant.

Significance Without Mitigation: Less than significant.

AQ-4	Implementation of the Downtown Davis Specific Plan would result in other emissions (such as those generating odors) but would not adversely affect a substantial number of people.

Odors

Operation

As identified in the Yolo-Solano AQMD Handbook, the type of facilities that are considered to have objectionable odors include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities. The types of land uses that would be accommodated under the Downtown Davis Specific Plan would include retail, residential, office, restaurant, and institutional land uses. Thus, the land uses associated with buildout of the Downtown Davis Specific Plan are not those that would typically emit objectionable odors that would affect a substantial number of people. Additionally, individual land uses (e.g., restaurant) would be required to comply with Yolo-Solano AQMD Rule 2.5, *Nuisance*, and the City of Davis Municipal Code Section 40.24.040(c), *Odors*. Therefore, impacts related to objectionable odors from operation of the proposed project would be less than significant.

Significance Without Mitigation: Less than significant.

¹ Bay Area Air Quality Management District (BAAQMD). 2017, May. California Environmental Quality Act Air Quality Guidelines.

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Construction

During construction activities associated with development under the Downtown Davis Specific Plan, construction equipment exhaust and application of asphalt and architectural coatings would temporarily generate odors. Any construction-related odor emissions would be temporary and intermittent in nature. Additionally, noxious odors would be confined to the immediate vicinity of the construction equipment. By the time such emissions reach any sensitive receptor sites, they would be diluted to well below any level of air quality concern. Furthermore, short-term construction-related odors are expected to cease upon the drying or hardening of the odor-producing materials. Therefore, impacts associated with construction-generated odors are considered less than significant.

Significance Without Mitigation: Less than significant.

4.2.4 CUMULATIVE IMPACTS

AQ-5	Implementation of the Downtown Davis Specific Plan would exceed the applicable Yolo-Solano significance thresholds and result in cumulative considerable air quality impacts.

In accordance with Yolo-Solano AQMD's methodology, any project that produces a significant project-level regional air quality impact in an area that is in nonattainment contributes to the cumulative impact. Consistent with the methodology, projects that do not exceed the regional significance thresholds would not result in significant cumulative impacts. Cumulative projects in the local area include new development and general growth in the proposed project area. The greatest source of emissions in the SVAB is mobile sources. Due to the extent of the area potentially impacted by cumulative emissions (i.e., the SVAB), Yolo-Solano AQMD considers a project cumulatively significant when project-related emissions exceed the Yolo-Solano AQMD regional emissions thresholds shown in Table 4.2-6.

Construction

The SVAB is designated nonattainment for O₃ and PM_{2.5} under the California and National AAQS. Construction of cumulative projects would further degrade the regional and local air quality. As discussed in Impact AQ-2, due to the magnitude of the development proposed, implementation of the Downtown Davis Specific Plan would result in significant and unavoidable construction-related regional air quality impacts even with mitigation incorporated. In addition, as discussed in Impact AQ-3, construction activities associated with implementation of the Downtown Davis Specific Plan would also result in significant localized air quality impacts as it pertains to criteria air pollutants. Therefore, construction activities associated with the proposed project would result in potentially significant cumulative air quality impacts.

Significance Without Mitigation: Potentially significant.

Mitigation Measures

Impact AQ-5.1: The proposed project's contribution to cumulative air quality impacts as it pertains to construction emissions would be cumulatively considerable.

Mitigation Measure AQ-5.1: Implement Mitigation Measure AQ-2.1

Significance With Mitigation: Significant and unavoidable.

While individual projects would reduce emissions below the Yolo-Solano AQMD significance thresholds with implementation of Mitigation Measure AQ-2.1, multiple developments could occur simultaneously within the Specific Plan Area. For these reasons, the impact is considered significant and unavoidable.

Operation

As discussed in Impact AQ-2, operation of the land uses accommodated under the Downtown Specific Plan would generate long-term emissions that exceed the Yolo-Solano AQMD regional significance threshold. Therefore, operation of the proposed project would result in potentially significant cumulative air quality impacts.

Significance Without Mitigation: Potentially significant.

Mitigation Measures

Impact AQ-5.2: The proposed project's contribution to cumulative air quality impacts as it pertains to operation emissions would be cumulatively considerable.

Significance With Mitigation: Significant and unavoidable.

No additional mitigation measures are identified beyond the Downtown Davis Specific Plan goals, policies, and implementation actions. The proposed goals, policies, and implementation actions of the Downtown Davis Specific Plan would reduce air pollutant emissions to the extent feasible. However, due to the magnitude of the overall land use development that would be accommodated under the Downtown Davis Specific Plan, operation-phase criteria air pollutant emissions would still exceed the Yolo-Solano AQMD regional significance thresholds. Therefore, this impact is considered significant and unavoidable.

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4.3 BIOLOGICAL RESOURCES

This section describes existing biological resources in the Specific Plan Area and evaluates the potential impacts on biological resources associated with future development that could occur by adopting and implementing the proposed project. A summary of the relevant regulatory framework and existing conditions is followed by a discussion of the project-specific and cumulative impacts.

4.3.1 ENVIRONMENTAL SETTING

4.3.1.1 REGULATORY FRAMEWORK

This section summarizes key federal, state, and local regulations and policies pertaining to biological resources that are applicable to the proposed project.

Federal Regulations

Federal Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries) are responsible for implementation of the federal Endangered Species Act (ESA), 16 U.S.C. 1531 *et seq.* The ESA protects fish, wildlife, and plant species that are listed as threatened or endangered, as well as their habitats. Endangered species, subspecies, or distinct population segments are those that are in danger of extinction throughout all or a significant portion of their range; threatened species, subspecies, or distinct population segments are those that are likely to become endangered in the near future.

Section 9 of the ESA prohibits the “take” of any fish or wildlife species listed as endangered. Take is defined as an action or attempt to hunt, harm, harass, pursue, shoot, would, capture, kill, trap, or collect a species. The term “harm” is further defined by regulation to include “significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.” (50 C.F.R. § 17.3) The Section 9 prohibition on a “take” also applies to threatened species, unless a special rule has been defined with regard to take at the time of listing. For plants, Section 9 makes it unlawful to import or export endangered plant species from the United States; to remove, possess, or maliciously damage or destroy of any endangered plant on federal land; or to remove, cut, dig up, damage, or destroy an endangered plant species in nonfederal areas in knowing violation of any State law or in the course of criminal trespass. Candidate species and species that are proposed, or under petition for listing, receive no protection under Section 9.

Section 7 of the ESA is the mechanism by which federal agencies ensure that the actions they take, including those they fund or authorize, do not jeopardize the existence of any listed species. Section 7 requires federal agencies to consult with the USFWS on proposed federal actions that may affect endangered, threatened, or proposed (for listing) species or critical habitat that may support the species. ESA Section 10 provides the regulatory mechanism that allows the incidental take of a listed species by private interests and nonfederal government agencies during lawful activities. Habitat conservation plans (HCPs) for the impacted species must be developed in support of incidental take permits for nonfederal

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projects to minimize impacts to the species and develop viable mitigation measures to offset the unavoidable impacts.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (MBTA) affirms and implements the United States' commitment to four international conventions—with Canada, Japan, Mexico, and Russia—to protect shared migratory bird resources. The MBTA governs the take, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. It prohibits the take, possession, import, export, transport, sale, purchase, barter, or offering of these items, except under a valid permit or as permitted in the implementing regulations. USFWS administers permits to take migratory birds in accordance with the MBTA.

Clean Water Act, Section 404

The United States Army Corps of Engineers (Corps) regulates discharge of dredged or fill material into "waters of the United States." "Waters of the United States," as applied to the jurisdictional limits of the Corps under the Clean Water Act (CWA), includes all waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the tide; all interstate waters, including interstate wetlands; all other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds whose use, degradation, or destruction could affect interstate or foreign commerce; impoundments of waters otherwise defined as waters of the United States; tributaries of waters; territorial seas; and wetlands adjacent to waters. The terminology used by Section 404 of the Clean Water Act includes "navigable waters," which is defined at Section 502(7) of the act as "waters of the United States, including the territorial seas." Any filling or dredging within waters of the United States requires a permit, which entails assessment of potential adverse impacts to Corps wetlands and jurisdictional waters and any mitigation measures that the Corps requires. Permits typically include conditions to minimize impacts on water quality. Consultation with USFWS under Section 7 of the ESA may be required for impacts to a federally listed species. If cultural resources may be present, Section 106 review under the National Historic Preservation Act may also be required. When a Section 404 permit is required, a Section 401 Water Quality Certification is also required from the Regional Water Quality Control Board (RWQCB).

Clean Water Act, Sections 401 and 402

Section 401(a)(1) of the CWA specifies that any applicant for a federal license or permit to conduct any activity that may result in any discharge into navigable waters shall provide the federal permitting agency with a certification, issued by the state in which the discharge originates, that any such discharge will comply with the applicable provisions of the CWA. In California, the applicable RWQCB must certify that the project will comply with water quality standards. Permits requiring Section 401 certification include Corps Section 404 permits, as well as National Pollutant Discharge Elimination System (NPDES) permits issued by the Environmental Protection Agency (EPA) under Section 402 of the CWA. The NPDES permitting program regulates the discharge of pollutants (except dredge or fill material) into waters of the United States. NPDES permits are issued by the applicable RWQCB.

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State Regulations

California Endangered Species Act

The California Endangered Species Act (CESA), California Fish and Game Code Sections 2050 *et seq.*, establishes State policy to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that State agencies should not approve projects that jeopardize the continued existence of threatened or endangered species, if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that would affect species that are on the federal and State endangered species lists, compliance with the federal ESA satisfies CESA if the California Department of Fish and Wildlife (CDFW) determines that the federal incidental take authorization is consistent with CESA under California Fish and Game Code Section 2080.1. For projects that would result in a take of species that are only State-listed, the project proponent must apply for a take permit under Section 2081(b) of the California Fish and Game Code.

California Native Plant Protection Act

The California Native Plant Protection Act of 1977 (CNPPA) prohibits the importation of rare and endangered plants into California, the “take” of rare and endangered plants, and sale of rare and endangered plants. CESA defers to the CNPPA, which ensures that State-listed plant species are protected when State agencies are involved in projects subject to CEQA. In this case, plants listed as rare under the CNPPA are not protected under CESA; however, impacts to endangered, rare, or threatened species, including plants, are evaluated under CEQA.

California Fish and Game Code Section 3503

Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the code.

Local Regulations

City of Davis General Plan

The City of Davis General Plan contains goals, policies, standards, and actions pertaining to biological resources, primarily to trees, in the Mobility (MOB), Urban Design, Neighborhood Preservation and Community Forest Management (UD), Habitat and Natural Areas (HAB), and Energy (ENERGY) Elements, as follows:

Goal MOB 1: Provide attractive streets designed to serve a broad spectrum of travel modes as well as automobiles.

Policy MOB 1.7: Adopt development policies to improve the appearance of each major arterial street, as illustrated in Figure 21 of the General Plan.

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Actions

- d. Work with Caltrans, other affected agencies and developers to implement the Interstate 80/Highway 113 Corridor Plan through public and private projects in these corridors. The following policies shall be considered to achieve a high level of aesthetic quality and to develop amenities within the corridors, including a green backdrop with views to businesses adjacent to the freeway corridors.
 - 4. Buildings and streets outside of the highway rights-of-way shall have generous landscaped areas.
 - 7. Preserve historic tree stands as well as individual trees to the greatest extent possible.
 - 9. Utilize drought tolerant vegetation.

Goal UD 2: Maintain an aesthetically pleasing environment and manage a sustainable community forest to optimize environmental, aesthetic, social, and economic benefits.

Policy UD 2.2: Maintain and increase the amount of greenery, especially street trees, in Davis, both for aesthetic reasons and to provide shade, cooling, habitat, air quality benefits, and visual continuity.

Standards

- a. New local streets in residential areas, collector streets and arterial streets should have landscaped strips with trees between sidewalks and streets.
- b. Arterial and collector streets in new developments should have planted medians, but with widths sized to accommodate tree and shrub plantings. Medians on collector streets should be limited to locations where the median contributes to a specific purpose or solves a specific problem, such as enhancing a neighborhood entry, calming traffic, or providing a needed pedestrian refuge at intersections. Removal of street trees to accommodate an increase in vehicular traffic shall occur only as a last resort, after review by appropriate boards and commissions.
- c. Streets that are planted in the future are expected to have wide canopies, sufficient to eventually provide, at maturity, at least 50 percent shade coverage of the pavement area of local streets and 30 percent shade coverage of the pavement area of collector and arterial streets.
- d. New developments should include Greenstreets, where appropriate.
- e. Existing arterial and collector streets should be converted to Greenstreets where appropriate and existing local streets should be evaluated for adequate tree canopies.
- f. Removal of street trees to accommodate increased vehicular traffic shall occur only as a last resort.

Actions

- g. Maintain existing street trees and implement a program of replacement street tree planting using large canopy deciduous trees where appropriate.
- h. In redevelopment or new development areas, plant trees and other vegetation to the greatest extent possible, with a minimum of pavement.

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- i. Develop a street tree master plan that specifies the species of trees to be planted on each roadway segment in Davis and provides a strategy for funding, maintenance and replacement.
- j. Evaluate existing street trees for adequate canopies, and consider streets found to be lacking sufficient canopy for street tree improvement programs.
- k. Complete, implement, evaluate and revise the Citywide tree planting, preservation and protection ordinance.
- l. Establish a tree gift program which encourages the use of potted trees or plants to be donated to the City for planting (i.e., Christmas trees).
- m. Continue to work with community groups such as Tree Davis to organize tree planting and maintenance activities.
- n. Implement a program to replace trees in a timely fashion on streets with significant existing trees that could be expected to die soon.
- o. Develop a Community Forest Management Plan for the City of Davis.

Goal HAB 1: Identify, protect, restore, enhance, and create natural habitats. Protect and improve biodiversity consistent with the natural biodiversity of the region.

Policy HAB 1.1: Protect existing natural habitat areas, including designated Natural Habitat Areas.

Standards (lettering is from General Plan)

- a. Heritage oak trees and City-designated signature trees shall be protected. Sensitive biological resource should be protected.
- b. Project design shall demonstrate that avoidance of sensitive resources has been integrated into project design. Where avoidance is not feasible, the project proponent shall compensate for the loss or disturbance within Yolo County. The type and amount of compensation shall be determined in conjunction with the appropriate local, state, and/or federal regulatory agency involved.
- i. The City shall require a biological survey be prepared by a qualified biologist for proposed development areas that may contain sensitive resources as defined by the City or appropriate state or federal regulatory agencies. The biological study shall be prepared as a requirement of the environmental assessment of a given project unless the City's Planning Director determines, based on previous studies or other evidence, that the site's current state would preclude the finding of sensitive resources. Agricultural use or plowing of a site does not eliminate the probability of sensitive resources. Such studies, when required, shall include:
 - surveys and mapping of special-status plants and wildlife during the appropriate identification periods;
 - mapping and quantification of sensitive habitat loss; and

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- delineation and quantification of waters of the U.S., including vernal pools, swales, alkali wetlands, seasonal wetlands, and other wetlands shall be done using the current USACE wetland delineation manual.

For areas of non-native grassland, rural, developed, or agricultural lands that are determined to contain no special-status species, inclusions of alkali grassland, meadow and scrub, native perennial grassland, or wetlands, no further mitigation will be required. If sensitive habitats are identified, please refer to the mitigation measure(s) below pertaining to that resource to avoid, minimize, or compensate significant effects on these resources accordingly.

- j. If a biological study of a site determines the presence of sensitive biological resources, the project proponent will retain a qualified biologist, approved by the agency(s) with regulatory responsibility, to monitor construction activities in sensitive biological resource areas.
- k. Sensitive biological resources located in or adjacent to the construction area will be protected by placing orange construction barrier fencing, or stakes and flags, including buffer zone (where appropriate and depending on the type of resource). Adjacent resources that may require protection include oak woodland, riparian woodland and scrub vegetation, drainages, vernal pools and swales, other wetlands, native grassland, special-status species populations, and elderberry shrubs.

Goal ENERGY 1: Reduce per capita energy consumption in Davis.

Policy ENERGY 1.4: Continue to enforce landscaping requirements that facilitate efficient energy use or conservation.

Standards

- a. City projects should be designed with accompanying trees and other vegetation to minimize pavement, provide shade and reduce energy use.
- b. Energy efficient landscaping and preservation of existing shade trees is encouraged on all building sites.

Actions

- c. Provide information and education to residents on how, what type, and where to plant trees to reduce energy demand.

GOAL POS 5: Respect natural habitat areas and agricultural land in planning and maintaining the City's park system.

Policy POS 5.1 Protect and retain wildlife habitat, agricultural land and open space when planning and maintaining City park lands.

Standards

- a. Existing natural habitat and other “unimproved” areas should be protected and preserved within parks, in keeping with the master plan approved for each park.

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- b. An agricultural buffer should be provided between publicly accessible parks/open spaces bordering agricultural lands.

City of Davis Municipal Code

The intent of Chapter 37, Tree Planting, Preservation and Protection, is to establish regulations for the planting of new trees and the preservation and protection of street trees, City trees (trees in parks, greenbelts, open spaces, on city property or easements, etc.), landmark trees of significance, parking lot trees, and certain private trees in order to retain and augment the health of the existing community forest. Subdividers are required to plant street trees within the city street tree easement, according to the city's street tree planting requirements, for each lot fronting a public street and is required to deposit a street tree fee. Removal or pruning of any existing street tree or city tree must submit a tree removal request submit to the city. Prohibited acts related to trees include attaching lines, wires, or signs on a city or street tree, pruning without a permit, cutting roots, grading around trunks, placing fencing around a street tree, or other activities causing damage to a city or street tree.

Davis Municipal Code Section 8.18.030 (Grading Permits) requires applications for grading permits to include a biological survey showing the location of nest sites or burrows for any State listed wildlife species, as well as a report on proposed mitigation measures to reduce any impact on wildlife.

Yolo Habitat Conservation Plan/Natural Communities Conservation Plan

The Downtown Davis Specific Plan Area is within the Yolo HCP/NCCP coverage area, which encompasses the whole of Yolo County. The Yolo HCP/NCCP was adopted in 2018. The Yolo HCP/NCCP is an HCP under the ESA and a NCCP under the California Natural Community Conservation Act. The 12 species covered under the plan are species that have potential to occur in the plan area that are currently listed as threatened or endangered under ESA or CESA, or that have potential to become listed during the 50-year life of the Plan. The Yolo HCP/NCCP allows Yolo County, the Yolo Habitat Conservancy (formerly the Yolo HCP/NCCP Joint Powers Authority), and the cities of Woodland, Davis, Winters, and West Sacramento to receive incidental take permits under the ESA and CESA for activities and projects they conduct and those under their jurisdiction. The Yolo HCP/NCCP provides a framework to improve conservation of natural resources, including endangered species habitat, while streamlining the permitting process for planned development, infrastructure, and maintenance activities by replacing the individual project system of permitting and mitigation with a countywide mitigation and conservation program that comprehensively coordinates the implementation of permit requirements. This approach benefits natural resources and project proponents by addressing project effects and mitigation requirements comprehensively in a way that is more efficient and effective for sensitive species and their essential habitats and creating habitat reserves that will be larger in scale, more ecologically valuable, and easier to manage than individual mitigation sites created under the current approach.

4.3.1.2 EXISTING CONDITIONS

Downtown Davis, including the Specific Plan Area, is currently urbanized and built out, and developed with a variety of uses, such as public and semi-public uses, parks and plazas, retail, office, service commercial, and residential. Non-urban components of the Specific Plan Area include the five-acre

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Central Park, and street trees that provide shade over many sidewalks, including over 80 trees that have been designated by the City as Landmark Trees. Although the Specific Plan Area contains and is primarily surrounded by urbanized uses, a natural open space area, the UC Davis Arboretum, is located to the south of the Specific Plan Area boundary. While there are no known sensitive species occurrences recorded at the Arboretum, Putah Creek traverses through the Arboretum and there is the potential for sensitive species to occur in the area.

4.3.2 STANDARDS OF SIGNIFICANCE

Implementation of the proposed project would result in a significant impact to biological resources if it would:

1. Have a substantial 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.
2. 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 U.S. Fish and Wildlife Service.
3. 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.
4. 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.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. Conflict with the provisions of an adopted habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.3.2.1 PLANS, PROGRAMS, AND POLICIES

Downtown Davis Specific Plan

The Downtown Davis Specific Plan contains the following implementation actions which would reduce impacts on biological resources in the Specific Plan Area:

- **Action 1.** Implement a Layered Network Approach to Street Design with Defined Modal Priorities.
- **Methodology/Step 1D:** Design all streets to maximize opportunities to support natural ecosystems and urban greenery; protecting existing trees, planting new trees, and incorporating shade strategies wherever feasible.

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Downtown Code

Section 40.14.040 encourages native and drought tolerant species to increase native plants and pollinator species; it also requires “every effort” to be made to incorporate mature on-site trees into the required landscaping.

Table 40.14.050D Requires one shade tree per 2,700 sf of gross site area acre, minus building coverage. In addition, each zone requires installation of street trees for infill, renovations, or new buildings over 1,000 square feet.

4.3.3 IMPACT DISCUSSION

BIO-1	Implementation of the proposed project could have a direct substantial adverse effect on any species identified as candidate, sensitive, or special status or through habitat modification.

As discussed in Chapter 3, *Project Description*, the Downtown Code would allow buildings up to seven stories in height in the southern portion of the Specific Plan Area, which exceeds the height of existing structures in the area and could potentially result in an increase in bird strikes by songbirds, raptors, and other migratory birds. However, a Downtown Specific Plan policy would require that new development incorporate bird-safe glazing, such as netting, permanent stencils, frosted glass, exterior screens, or physical grids placed on the exterior of glazing, for portions of buildings over 50 feet in height. This would minimize the potential for bird strikes such that there would not be a substantial adverse effect on species identified as candidate, sensitive, or special status. This impact would be less than significant.

The Specific Plan Area is completely developed and mapped as Urban and Built-Up Land, with the main vegetation type being street trees and ornamental landscaping (CDC 2016). Given the built nature of the area, it is unlikely that special-status plants occur in the area. Future development in the Specific Plan Area would be concentrated on sites that are already developed or are under-utilized, and that are in close proximity to other existing development. Although the Specific Plan Area includes residential and non-residential uses, and therefore, there are frequent disturbances in and surrounding the Specific Plan Area, trees and buildings could contain nesting birds and roosting bats. Trees and buildings in the Specific Plan Area could be used for nesting by birds protected under the California Fish and Game Code Sections 3503 *et seq.* and the Migratory Bird Treaty Act. The removal of buildings or trees, or construction near buildings or trees, could impact potential nesting birds or roosting bats. As a result, impacts would be potentially significant.

Significance Without Mitigation: Potentially significant.

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Mitigation Measures

Impact BIO-1: Implementation of the proposed project could impact nesting birds or roosting bats in trees or buildings.

Mitigation Measure BIO-1: If grading, tree trimming or removal, and/or demolition or construction activities would occur during the migratory bird nesting season (March 15–August 15) or bat roosting season (April 1–September 30), the project applicant shall provide preconstruction surveys to identify active bird nests or roosting bats conducted by a qualified biologist within 14 days prior to construction initiation on specific project sites. Focused surveys must be performed by a qualified biologist for the purpose of determining the presence/absence of active nest sites within the proposed impact area and a 200-foot buffer (if accessible). Surveys shall be repeated if construction activities are delayed or postponed for more than 30 days.

If active nest sites are identified within 200 feet of project activities, project applicants shall impose a 100-foot setback for all active nest sites prior to commencement of any project construction activities to avoid construction or access-related disturbances to bird nesting activities. Project-related activities (i.e., vegetation removal, earth moving, and construction) shall not occur within setbacks until the nest is deemed inactive by a qualified biologist. Activities permitted within and the size (i.e., 100 feet) of setbacks may be adjusted through consultation with the CDFW and/or the City.

Should a project within the Specific Plan Area qualify as a covered activity under the Yolo HCP/NCCP, the project applicant shall prepare and submit an HCP/NCCP application package including all applicable Avoidance and Minimization Measures recommended in the HCP/NCCP.

Mitigation Measure BIO-2: If the project requires tree trimming or removal, and/or building demolition, the project applicant shall provide preconstruction surveys to identify roosting bats conducted within 14 days prior to project initiation on specific project sites. Focused surveys must be performed by a qualified wildlife biologist for the purpose of determining the presence/absence of roosting bats within the proposed impact area. Surveys shall be repeated if construction activities are delayed or postponed for more than 30 days. If roosting bats are discovered during the surveys, the following would be implemented to avoid impacts to bat species:

- a) The pruning or removal of living trees or snags or the demolition of buildings should not occur during the maternity season between April 1 and September 1 to minimize the disturbance of young that may be present and unable to fly.
- b) During the non-maternity season, bats roosting in buildings must be passively excluded within 48 hours of building demolition or disturbance.
- c) The pruning or removal of living trees or snags must occur between the hours of 12 p.m. and sunset on days after nights when low temperatures were 50° or warmer to minimize impacting bats that may be present in deep torpor.
- d) When it is necessary to perform crown reduction on trees over 12 inches in diameter breast height or remove entire trees or branches over 6 inches in diameter, there shall be preliminary pruning of small branches less than 2 inches in diameter performed the day before. The purpose of this is to minimize the probability that bats would choose to roost in those trees the night before the work is performed.

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- e) If it is not possible to implement Measures c and/or d, then a qualified wildlife biologist will be required to conduct tree cavity surveys and humanely and passively evict roosting bats within 24 hours of vegetation management activities. Measure a, i.e., avoidance of maternity season, is critical as young bats that are not able to fly cannot be humanely evicted.

Significance With Mitigation: Less than significant.

BIO-2	Implementation of the proposed project would not have an adverse effect on riparian habitat or other sensitive natural communities.

The Specific Plan Area is completely developed and does not contain any riparian habitat or sensitive natural communities identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service (USFWS 2020). Putah Creek, a riverine, flows south of the Specific Plan Area. However, this portion of Putah Creek is not identified by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service as being a sensitive natural community. Further, this section of Putah Creek flows adjacent to existing urban development in and around the Specific Plan Area and thus potential future development that would occur from implementation of the proposed project would be characteristic of the existing built environment Putah Creek traverses. Regardless, potential future development in the Specific Plan Area would be required to comply with local, state, and federal regulations adopted to minimize impacts to potential sensitive natural communities (e.g., ESA, CESA, California Native Plant Protection Act, Davis GP policies, and Davis Municipal Code), including those in and surrounding the Specific Plan Area. Therefore, impacts would be less than significant.

Significance Without Mitigation: Less than significant.

BIO-3	Implementation of the proposed project would not have an adverse effect on state or federally protected wetlands.

The Specific Plan Area is designated as Urban and Built Up Land, is completely developed, and contains no state or federally protected wetlands.¹ Therefore, there is no impact to any state or federally protected wetlands that could occur under implementation of the proposed project.

Significance Without Mitigation: No impact.

¹ United State Fish and Wildlife Service (USFWS). 2020. Wetlands Mapper.
<https://www.fws.gov/wetlands/data/mapper.html>

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BIO-4	Implementation of the proposed project would not interfere substantially with the movement of native resident or migratory wildlife species or migratory corridors or impede the use of native wildlife nursery sites.

Corridors refer to established migration routes commonly used by resident and migratory species for passage from one geographic location to another. Movement corridors may provide favorable locations for wildlife to travel between different habitat areas, such as foraging sites, breeding sites, cover areas, and preferred summer and winter range locations. They may also function as dispersal corridors allowing animals to move between various locations within their range.

As stated, the Specific Plan Area does not contain any designated wetlands or riparian corridors that would provide for the movement of any native resident or migratory wildlife species. Further, given the developed nature of the Downtown area, native wildlife nursery sites are not present such that there would be a substantial impact. Implementation of the proposed project would result in less than significant impacts to resident or migratory fish and wildlife species and native wildlife nursery sites.

Significance Without Mitigation: Less than significant.

BIO-5	Implementation of the proposed project would not conflict with local policies or ordinances pertaining to tree preservation.

The City's General Plan, Municipal Code, and the proposed Downtown Davis Specific Plan and proposed Downtown Code contain policies and standards regarding the preservation of trees. One of the purposes of the proposed Downtown Specific Plan and proposed Downtown Code is to adopt development standards for future projects in the Specific Plan Area. Future project implementation would be required to comply with the City's policies regarding the preservation of trees. For example, the General Plan contains actions and standards that require the preservation of historic trees; landscaped strips with trees on new local streets, collector streets, and arterial streets; and the protection of heritage trees.

Additionally, both Chapter 37 of the City's Municipal Code and the proposed Downtown Davis Specific Plan call for planting new trees to mitigate for tree removal and preserving existing trees. Moreover, the proposed Downtown Code provides requirements for the minimum number of trees to be replaced or infilled on the City's streetscape for new development as well as development subject to additions or renovations.

Future projects (both new development and modifications to existing development) would be required to comply with the City's local policies and ordinances pertaining to the preservation and planting of trees; accordingly, there would not be conflicts with local policies and ordinances pertaining to tree preservation and impacts would be less than significant.

Significance Without Mitigation: Less than significant.

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BIO-6 Implementation of the proposed project would not conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other habitat conservation plans.

The Specific Plan is within the area covered by the Yolo HCP/NCCP, which encompasses Yolo County and a 1,174-acre expanded Plan Area for riparian conservation in Solano County. This plan is intended 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. Development within the Specific Plan area would be considered a covered activity under the HCP/NCCP if it has a reasonable potential or likelihood to affect a covered species adversely. Covered activities must adopt the applicable Avoidance and Minimization Measures in order to receive coverage under the Yolo HCP/NCCP. These include general project design features, general construction and operations maintenance activities, measures that minimize impacts to sensitive natural communities, and measures that minimize adverse effects on each of the 12 covered species. As described under Impact BIO-1 above, implementation of the Specific Plan could result in disturbance to trees and buildings which could thereby cause the harassment, injury, or mortality of covered species, primarily nesting birds. To ensure compliance with the HCP/NCCP, projects under the Specific Plan would be required to retain a qualified biologist to conduct planning-level surveys and identify natural communities and important elements of covered species habitat in the area of impact. If the surveys determine that the project would result in adverse impacts to covered species, the project would be required to adopt applicable Avoidance and Minimization Measures. As stated within Mitigation Measure BIO-1, if a future project in the Specific Plan area is considered a covered activity under the HCP/NCCP, it would be required to submit an application package for coverage within the Yolo HCP/NCCP and implement all additional mitigation necessary to meet the requirements of the HCP/NCCP.

As implementation of the proposed project would not conflict with the Yolo HCP/NCCP or any other habitat conservation plans, impacts would be less than significant.

Significance Without Mitigation: Less than significant.

4.3.4 CUMULATIVE IMPACTS

BIO-7 Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to biological resources.

The potential impacts of a proposed project on biological resources tend to be site-specific, and the overall cumulative effect is dependent on the degree to which significant vegetation and wildlife resources are located on a particular site. This includes preservation of well-developed native vegetation, populations of special-status plant or animal species, and wetland features. Environmental review of specific development proposals in the Specific Plan Area would serve to ensure that important biological resources, if any, are identified, protected, and properly managed, and to prevent any significant adverse development-related impacts. Similarly, environmental review will be required prior to development for the remaining undeveloped lands in the surrounding area outside of the Specific Plan.

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The Specific Plan Area could contain sensitive biological resources. As such, the identified policies from the City's General Plan, Municipal Code, proposed Downtown Davis Specific Plan, and proposed Downtown Code, as well as state/federal regulations and Mitigation Measures BIO-1 and BIO-2 would reduce any potential biological impacts to a less than significant level. Accordingly, the proposed project would not substantially contribute to cumulative impacts on biological resources and the impact would be *less than significant*.

Significance Without Mitigation: Less than significant.

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4.3.5 REFERENCES

California Department of Conservation (CDC). 2016. California Important Farmland Finder.
<https://maps.conservation.ca.gov/dlrp/ciff/>

United State Fish and Wildlife Service (USFWS). 2020. Wetlands Mapper.
<https://www.fws.gov/wetlands/data/mapper.html>

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4.4 CULTURAL RESOURCES

This chapter describes the regulatory framework and existing conditions on the project site related to cultural resources, and the potential impacts of the project on cultural resources.

4.4.1 ENVIRONMENTAL SETTING

4.4.1.1 REGULATORY FRAMEWORK

Federal Regulations

National Historic Preservation Act

The National Historic Preservation Act of 1966 (NHPA) coordinates public and private efforts to identify, evaluate, and protect the nation's historic archaeological resources. The Act authorized the National Register of Historic Places, which lists districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture.

Section 106 (Protection of Historic Properties) of the NHPA requires federal agencies to take into account the effect of their undertakings on historic properties. Section 106 Review ensures that historic properties are considered during federal project planning and implementation. The Advisory Council on Historic Preservation, an independent federal agency, administers the review process with assistance from state historic preservation offices.

Archaeological Resources Protection Act

The Archaeological Resources Protection Act of 1979 regulates the protection of archaeological resources and sites on federal and tribal lands.

Native American Graves Protection and Repatriation Act

NAGPRA is a federal law passed in 1990 that mandates museums and federal agencies to return certain Native American cultural items—such as human remains, funerary objects, sacred objects, or objects of cultural patrimony—to lineal descendants or culturally affiliated Native American tribes.

National Register of Historic Places

The NRHP is the nation's official list of buildings, structures, objects, sites, and districts worthy of preservation because of their significance in American history, architecture, archaeology, engineering, and culture. The NRHP recognizes resources of local, state, and national significance which have been documented and evaluated according to uniform standards and criteria.

Authorized under the NHPA, the NRHP is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archaeological resources. The NRHP is administered by the National Park Service, which is part of the US Department of Interior.

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To be eligible for listing in the National Register, a resource must meet at least one of the following criteria:

- It is associated with events that have made a significant contribution to the broad patterns of our history.
- It is associated with the lives of persons significant in our past.
- It embodies the distinctive characteristics of a type, period, or method of construction, represents the work of a master, possess high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction.
- It has yielded, or may be likely to yield, information in history or prehistory.

The resource must also possess historic “integrity.” Integrity is defined as “the ability of a property to convey its significance.” The National Register recognizes seven qualities that, in various combinations, define integrity. These are location, design, setting, materials, workmanship, feeling, and association.

State Regulations

California Public Resources Code

Archaeological and historical sites are protected under a wide variety of state policies and regulations in the California Public Resources Code (PRC). Cultural resources also receive protection under the PRC and CEQA as nonrenewable resources.

PRC Sections 5020 to 5029.5 continued the former Historical Landmarks Advisory Committee as the State Historical Resources Commission. The commission oversees the administration of the California Register of Interest and is responsible for the designation of state historical landmarks and historical points of interest. PRC Section 5024.1 establishes the criteria for listing on the California Register of Historic Resources.

PRC Sections 5079 to 5079.65 define the functions and duties of the Office of Historic Preservation, which administers federal- and state-mandated historic preservation programs and the California Heritage Fund.

PRC Sections 5097.9 to 5097.991 provide protection to Native American historical and cultural resources and sacred sites; identify the powers and duties of the Native American Heritage Commission (NAHC); require that descendants be notified when Native American human remains are discovered; and provide for treatment and disposition of human remains and associated grave goods.

California Register of Historical Resources

The California Register of Historic Resources (CRHR) is used by state and local agencies, private groups, and citizens to identify, evaluate, register, and protect California’s historical resources, and indicates which resources are to be protected from substantial adverse change.

The CRHR encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance; identifies historical resources for state and local planning

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purposes; determines eligibility for state historic preservation grant funding; and affords certain protections under CEQA.

As set forth in PRC Section 5024.1 and Section 15064.5 of the CEQA Guidelines, to be eligible for listing in the CRHR, a resource must meet at least one of the following criteria:

- Is associated with events that have made a significant contribution to the broad patterns of California's history or the cultural heritage.
- Is associated with the lives of persons important in our past.
- Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possess high artistic values.
- Has yielded, or has the potential to yield, information important to the prehistory or history.

In addition to having significance, resources must have integrity for the period of significance. The period of significance is the date or span of time within which significant events transpired or significant individuals made their important contributions. Integrity is the authenticity of a historical resource's physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource's period of significance. Alterations to a resource or changes in its use over time may change its historical, cultural, or architectural significance. Simply, resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR if it maintains the potential to yield significant scientific or historical information or specific data.

California Historical Landmarks

California Historical Landmarks are buildings, structures, sites, or places that have been determined to have statewide historical significance. The resource must be approved for designation by the County Board of Supervisors or the City/Town Council in whose jurisdiction it is located; be recommended by the State Historical Resources Commission; and be officially designated by the Director of California State Parks. A resource must meet at least one of these following criteria:

- Be the first, last, only, or most significance of its type in the state or within a large geographic region (Northern, Central, or Southern California).
- Be associated with an individual or group having a profound influence on the history of California.
- Be a prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer, or master builder.

California Points of Historical Interest

California Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. Points of Historical Interest designated after

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December 1997 and recommended by the State Historical Resources Commission are also listed in the CRHR. No historical resource may be designated as both a landmark and a point. If a point is subsequently granted status as a landmark, the point designation is retired.

To be eligible for designation as a Point of Historical Interest, a resource must meet at least one of the following criteria:

- Be the first, last, only, or most significant of its type within the local geographic region (city or county).
- Be associated with an individual or group having a profound influence on the history of the local area.
- Be a prototype of, or an outstanding example of, a period, style, architectural movement or construction or be one of the more notable works or the best surviving work in the local region of a pioneer architect, designer or master builder.

California Historic Building Code

The California Historic Building Code—California Code of Regulations, Title 24, Part 8—provides regulations for the preservation, restoration, rehabilitation, relocation, or reconstruction of buildings or properties designated as qualified historical buildings or properties. The California Historic Building Code is intended to provide solutions for the preservation of a qualified historical buildings or properties, to promote sustainability, to provide access for persons with disabilities, to provide a cost-effective approach to preservation, and to provide for the reasonable safety of the occupants or users.

Mills Act

Under the Mills Act, California Government Coded Sections 50280 et seq., a city or county may contract with the owner of any qualified historical property to restrict the use of the property. The owner continues to preserve the property and the State reduces property taxes. The City adopted the Historic Property Preservation (Mills Act) Program in 2002.

Human Remains

California Health and Safety Code Section 7050.5(b) specifies protocol when human remains are discovered. CEQA Guidelines Section 15064.5(e) requires that excavation activities stop whenever human remains are uncovered and that the county coroner be called in to assess the remains. Section 15064.5 directs the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native Americans for the treatment and disposition of the remains.

Local Regulations

The City of Davis became a Certified Local Government in 1995 by joining the California Office of Historic Preservation, which provides technical assistance and small grants. The City of Davis is required to enforce applicable state and local regulations for the designation and protection of historic resources.

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City of Davis General Plan

The following policy, standards, and actions would reduce potential impacts on historic and archeological resources.

Policy HIS 1.2 Incorporate measures to protect and preserve historic and archaeological resources into all planning and development.

Standards

- a. The City shall review proposed alteration to City-designated historic resources and improvements within historic districts utilizing the Secretary of the Interior Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings and the State Historic Building Code.
- b. A cultural resources survey shall be required for development sites where cultural resource conditions are not known (as required by the Planning and Building Department). Resources within a project site that cannot be avoided should be evaluated. Additional research and test excavations, where appropriate, should be undertaken to determine whether the resource(s) meets CEQA and/or NRHP significance criteria. Impacts to significant resources that cannot be avoided will be mitigated in consultation with the lead agency for the project. Possible mitigation measures include:
 - a data recovery program consisting of archaeological excavation to retrieve the important data from archaeological sites;
 - development and implementation of public interpretation plans for both prehistoric and historic sites;
 - preservation, rehabilitation, restoration, or reconstruction of historic structures according to Secretary of Interior Standards for Treatment of Historic Properties;
 - construction of new structures in a manner consistent with the historic character of the region; and
 - treatment of historic landscapes according to the Secretary of Interior Standards for Treatment of Historic Landscapes.

Actions

- c. Establish standards, rules and regulations governing the protection, preservation, restoration, remodeling, reconstruction, redevelopment or demolition of historic resources and improvements within historic districts and the development or alteration of archeological resources, with the purpose of cultivating an environment that reflects Davis' roots.
- d. Research and adopt design and sign guidelines for future in-fill construction and remodeling within designated historic districts.

Policy HIS 1.3 Assist and encourage property owners and tenants to maintain the integrity and character of historic resources, and to restore and reuse historic resources in a manner compatible with their historic character.

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Actions

- a. Continue to serve as a leader in historic preservation by preserving, restoring and reusing City-owned historic resources where feasible.
- b. Investigate and ascertain sources of public and private funding available for the preservation of historic resources.
- c. Prepare a "how to" guide for restoring historic and architecturally significant structures and make it available to the public.
- d. Provide design assistance, through staff or volunteers, to property owners, tenants and builders who work with historic resources.
- e. Develop incentives for property owners to restore historic buildings, such as reduced permit fees.
- f. Create a facade improvement program that encourages preservation of historic facades and exteriors.
- g. Create a property owner recognition program to reward citizens who have demonstrated excellence in maintaining and/or rehabilitating a historic resource.
- h. Create a program to encourage the reuse of salvaged architectural materials.
- i. Develop means of informing property owners with designated resources and trees with special designations.

Davis Downtown and Traditional Residential Neighborhoods Design Guidelines

The design guidelines respond to community concerns about how new investment in the center of Davis can enhance, rather than erode, its valued character. The design guidelines aim to conserve the traditional neighborhood character, discourage demolition of structures consistent with the District's historic character, and foster reinvestment and economic development in the core that is consistent with historic conservation. The proposed project would replace the design guidelines for the Specific Plan Area, but they would remain in effect for other residential neighborhoods.

City of Davis Municipal Code

Davis Municipal Code Section 8.19.030, Demolitions within the Adopted Conservation Overlay District (Article 40.13A) or Historic District, indicates that demolition of all structures within the adopted conservation overlay district or within a historic district shall be subject to Article 40.23 of Chapter 40 of the Davis Municipal Code and the following: "All necessary discretionary entitlements, including, but not limited to, design review, conditional use permits, map applications, public hearings, CEQA clearance, and any other discretionary entitlements that may be necessary for the construction of a replacement project shall be completed prior to issuance of a demolition permit."

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Section 8.19.040, Demolition of Structures that Fifty or More Years Old, states that demolition of all structures built fifty or more years from the date of demolition application submittal shall be subject to Article 40.23 of Chapter 40 of the Davis Municipal Code and the following:

- If the property is a resource in accordance with the Historic Resources Management Ordinance, demolition review shall be subject to the provisions of Article 40.23 of this Code.
- A demolition permit can be issued only if the building is not designated as a historic resource, should be considered for historic designation consistent with the standards established in Article 40.23, and after noticing as described in Article 40.23.
- While the jurisdiction of the historical resources management commission is limited under this section of Article 8.19 to those properties that are fifty years old or more for which a demolition permit is sought, nothing herein should be construed to prevent the designation of properties as historical resources that are less than fifty years old; provided, that said designation is made pursuant to the requirements of Article 40.23, and is consistent with the requirements of federal and state cultural resources law for properties of exceptional significance.

Article 40.13.A.0, Downtown and Traditional Neighborhood Overlay District, are design guidelines for the downtown and surrounding neighborhoods. The Specific Plan replaces this article for properties in the Specific Plan Area but maintains the existing guidelines for properties that are outside the Specific Plan Area boundary and the University Avenue/Rice Lane neighborhood properties that are not affected by the Specific Plan.

Article 40.23, Historical Resources Management, governs the City's historic preservation process by providing for the identification, designation, protection, enhancement, perpetuation, and use of historical resources including improvements, buildings, structures, objects, signs, features, sites, cultural landscapes, places, and areas within the city that reflect special elements of the city's historical, architectural, archaeological, cultural, or aesthetic heritage.

4.4.1.2 EXISTING CONDITIONS

Historical Resources

As discussed in Chapter 5 of the Davis Downtown Specific Plan, there are 31 designated historical or eligible resources in the downtown core and surrounding neighborhoods, 7 of which are designated "landmarks" – including two listed on the National Register of Historic Places – and 15 "merit" resources, and 8 properties deemed eligible for merit resource designation, but not formally designated and the 1967 Bike Lane, which is eligible for the National Register." Additionally, there are some 170 properties presently identified as contributors to the existing Downtown and Traditional Neighborhood Conservation Overlay District. The current boundaries of the Conservation Overlay District cover the Downtown core, the University-Rice Lane neighborhood, and the Old North and Old East neighborhood, and is regulated by Section 40.23.010 of the Davis Municipal Code.

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In addition, the City has identified 40 additional properties/areas in the Downtown Specific Plan area that should be surveyed to determine their potential as historic resources and identified these as “priority” survey areas. However, no additional or special requirements would apply if development applications are submitted for any of these properties. These “priority” properties or areas include:

- Amtrak station
- Davis Commons
- All properties on east side of G Street within the Downtown Plan area (from 1st Street to East 8th Street)
- All properties on west side of G Street from 2nd Street to 5th Street
- All properties within block bound by: 2nd Street, E Street, 3rd Street, and F Street
- All properties within block bound by 2nd Street, F Street, 3rd Street, and G Street
- All properties within block bound by 3rd Street, E Street, 4th Street, and F Street
- Properties fronting on the north side of 3rd Street between E Street and F Street
- 901 3rd Street
- 907 4th Street
- 904 4th Street
- 912 5th Street
- 412 C Street
- 500 5th Street
- 512 5th Street
- 413 E Street
- 255 2nd Street
- 239 2nd Street
- 204 University Ave
- 212 University Ave
- 218 University Ave
- 222 University Ave
- 232 University Ave
- 220/226 3rd Street
- 232 3rd Street
- 236 3rd Street
- 240 3rd Street
- 241 B Street
- 301 B Street
- 329 B Street
- 247 B Street
- 235 3rd Street
- 231 3rd Street
- 307 University Ave
- 312 University Ave
- 207 3rd Street/302 A Street
- 230 A Street
- 224 A Street
- 214 A Street
- 209 2nd Street

Currently no surveys have been conducted to determine the presence of archaeological resources in the Plan Area, so the archaeological sensitivity of the Plan Area is unknown.

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4.4.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact to cultural resources if it would:

1. Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.
3. Disturb any human remains, including those interred outside of dedicated cemeteries.

4.4.3 IMPACT DISCUSSION

CUL-1	Implementation of the proposed project could cause a substantial adverse change to historic resources.

There are 31 designated or eligible historic resources in the downtown core and surrounding neighborhoods and an additional 40 priority survey areas. Development in accordance with the proposed project could adversely impact historic resources. While some known or future historic resources in the Specific Plan Area would be protected through local ordinances, and state and federal regulations restricting alteration, relocation, and demolition of historic resources, there is potential that implementation of the proposed project would alter historic resources.

City of Davis Demolition Ordinance, Article 8.19, requires a historical evaluation and determination before demolition of structures 50 years or older. At the time a development project is proposed adjacent to, near, or at a known or potential historic resource, the project-level CEQA document of the development project, if required, would need to identify any impacts, direct or indirect, that the specific project could have on the identified historic resource. The CEQA Guidelines state that, "Generally, a project that follows the Secretary of the Interior's Standards ... shall be considered as mitigated to a level of less than a significant impact on the historical resource." In addition, Downtown Code Section 14.40.080, Historic Resource Adjacency Standards, has standards related to ground floor height, side setbacks and stepbacks, and main body and wings for all building sites adjacent to Historic Resources identified in Figure 40.13.070.A.

Resources that are potentially eligible for future historic resources listing may be vulnerable to development activities accompanying infill, redevelopment, or revitalization that would be accommodated by the implementation of the proposed project. For instance, the placement of new buildings adjacent to a potential historic resource may result in indirect impacts to access, visibility, and visual context, while renovations or modifications to potential historic resources may deteriorate or destroy the characteristics that make those resources important or unique. In addition, other buildings or structures that could meet the NRHP criteria upon reaching 50 years of age might be impacted by development or redevelopment activity that would be accommodated by the implementation of the proposed project.

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While compliance with existing local, State, and federal regulations related to historic resources would reduce impacts on historic properties, there is a possibility that implementation of the proposed project could permanently impact existing or future historic resources, either directly or indirectly, through altering the context of the resource with larger, taller, or more modern buildings than contained in the existing area and result in a potentially significant impact to the context of a historical resource.

Significance Without Mitigation: Potentially significant.

Mitigation Measures

Impact CUL-1: Implementation of the proposed project could cause a substantial adverse change to historic resources. The City of Davis' Demolition Ordinance requires a historical evaluation prior to demolition of a building 50 years or older, but evaluation of adjacent sites is not required and a potential resource could be impacted by a change in context. The following mitigation measure for evaluation of age-eligible sites adjacent to new development ensures that potential resources are identified. Additionally, Historic Resource Adjacency Standards in the proposed Downtown Code include design requirements for development adjacent to a historic resource with standards addressing building setbacks and height stepbacks, which can help to reduce the impact. However, there are no feasible measures that would reduce the potential impacts on known and currently unknown historic resources to a less than significant level and this impact would remain significant and unavoidable.

Mitigation Measures

Mitigation Measure CUL-1 Site-Specific Evaluations: In order to identify potential historical resources on adjacent properties, the project applicant shall complete site-specific evaluations for buildings that are at least 50 years old on adjacent properties at the time that the individual project application is submitted, if evaluations of the sites do not already exist. The project applicant shall be complete a site-specific historic resources study performed by a qualified architectural historian meeting the Secretary of the Interior's Standards for Architecture or Architectural History. At a minimum, the evaluation shall consist of a records search, an intensive-level pedestrian field survey, an evaluation of significance using standard National Register Historic Preservation and California Register Historic Preservation evaluation criteria, and recordation of all identified historic buildings and structures on California Department of Parks and Recreation 523 Site Record forms, and shall be submitted to the City of Davis for review and acceptance. If it is determined that a site meets the eligibility criteria for designation, the City may consider designation in accordance with its Historic Resources Management Ordinance.

Significance With Mitigation: Significant and unavoidable.

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CUL-2 Implementation of the proposed project would not have an adverse change in the significance of an archaeological resource pursuant to Section 15064.5.

Archaeological resources are prehistoric or historic evidence of past human activities, including structural ruins and buried resources. Given that the majority of the Specific Plan Area is developed, the land within the Specific Plan Area has undergone previous ground disturbance and construction activities, such as grading, excavation, and trenching for utility connections. Therefore, it is unlikely that buried archaeological resources would be discovered or damaged by future development in the Specific Plan Area. However, there is a chance that previously unknown archaeological resources may be unearthed during grading and excavation activities of potential future development for the taller buildings proposed by the project. The Davis General Plan EIR adopted goals, policies, standards, and actions that pertain to the designation and preservation of archaeological resources, including in the Specific Plan Area. Policy HIS 1.2 requires measures to protect and preserve historic and archaeological resources from development. It further requires a cultural resources survey for development sites where cultural resource conditions are not known and a data recovery program consisting of archaeological excavation to retrieve the important data from archaeological sites, if present. If previously unknown archaeological resources are identified in the Specific Plan Area during future grading or excavation activities, the protocol set forth in Policy HIS 1.2 of the Davis General Plan would be enforced.

These standards, however, do not fully address impacts to archaeological resources. As noted, grading and excavation activities as a result of development under the Specific Plan could result in the damage or destruction of an as yet undiscovered unique archaeological resource. This would be a potentially significant impact

Significance Without Mitigation: Potentially significant.

Mitigation Measures

Impact CUL-2: Implementation of the proposed project could result in an adverse change in the significance of an archaeological resource.

Mitigation Measure CUL-2: The City shall require the applicant/contractor to provide a cultural resources and tribal cultural resources sensitivity and awareness training program (Worker Environmental Awareness Program [WEAP]) for all personnel involved in project construction, including field consultants and construction workers. The WEAP will be developed in coordination with an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archeology, as well as culturally affiliated Native American tribes. The City may invite Native American representatives from interested culturally affiliated Native American tribes to participate. The WEAP shall be conducted before any project-related construction activities begin in the project area. The WEAP will include relevant information regarding sensitive cultural resources and tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations.

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The WEAP will also describe appropriate avoidance and impact minimization measures for cultural resources and tribal cultural resources that could be located at the project site and will outline what to do and who to contact if any potential cultural resources or tribal cultural resources are encountered. The WEAP will emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American tribal values.

Mitigation Measure CUL-3: In the event that any prehistoric or historic-era subsurface archaeological features or deposits are discovered during construction, all ground-disturbing activity within 100 feet of the resources shall be halted and a qualified professional archaeologist shall be retained to assess the significance of the find. If the find is determined to be significant by the qualified archaeologist (i.e., because it is determined to constitute either an historical resource or a unique archaeological resource), the archaeologist shall develop appropriate procedures to protect the integrity of the resource and ensure that no additional resources are affected. Procedures could include but would not necessarily be limited to preservation in place, archival research, subsurface testing, or contiguous block-unit excavation and data recovery.

If the archaeologist determines that some or all of the affected property qualifies as a Native American Cultural Place, including a Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine (Public Resources Code §5097.9) or a Native American historic, cultural, or sacred site, that is listed or may be eligible for listing in the California Register of Historical Resources pursuant to Public Resources Code §5024.1, including any historic or prehistoric ruins, any burial ground, any archaeological or historic site (Public Resources Code §5097.993), the archaeologist shall recommend to the applicant potentially feasible procedures that would preserve the integrity of the site or minimize impacts on it.

Significance With Mitigation: Less than significant.

CUL-3	Implementation of the proposed project would not disturb any human remains, including those interred outside of dedicated cemeteries.

The majority of the Specific Plan Area has been graded, paved, and excavated, and currently contains residential, non-residential, and open space areas. Accordingly, any human remains existing within the Specific Plan Area would likely have been found during grading and excavation. While possible that excavation on previously disturbed soils could result in the discovery of human remains, state law establishes the process and responsibility for action which eliminates the need to establish mitigation measures.

California Health and Safety Code Section 7050.5 requires that in the event that human remains are discovered during construction activities within the Specific Plan Area, all activity must halt and remain halted until the County coroner has conducted an investigation into the circumstances, manner, and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to their authorized representative. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes

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or has reason to believe the human remains to be those of a Native American, they shall contact by telephone, within 24 hours, the Native American Heritage Commission and the Public Resources Code Section 5097.98 must be followed. Compliance with Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98 would ensure that potential impacts to human remains would be less than significant.

Significance Without Mitigation: Less than significant.

4.4.4 CUMULATIVE IMPACTS

CUL-4	Implementation of the proposed project could have a cumulatively considerable impact on historic resources.

Each cumulative project within the Specific Plan Area and throughout the city would be required to comply with local ordinances, as well as state and federal regulations pertaining historic and archaeological resources, as well as the discovery of human remains. While compliance with local, state, and federal regulations would reduce impacts to a level of less than significant, implementation of the proposed project could adversely and significantly impact historic resources in the Specific Plan Area. Therefore, the project's contribution to impacts on historic resources would be cumulatively considerable.

Significance Without Mitigation: Potentially significant.

Mitigation Measures

Even with implementation of Mitigation Measures CUL-1, CUL-2, and CUL-3 the project's contribution to cumulative impacts would be significant and unavoidable.

Significance With Mitigation: Significant and unavoidable.

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4.5 ENERGY

This section of the Draft Environmental Impact Report (DEIR) presents a summary of the proposed project's anticipated energy needs, impacts, and conservation measures. Information found herein, as well as other aspects of the project's energy implications, are discussed in Chapter 3, *Project Description*, and Sections 4.2, *Air Quality*, 4.6, *Greenhouse Gas Emissions*, and 4.13, *Transportation*.

4.5.1 ENVIRONMENTAL SETTING

4.5.1.1 REGULATORY FRAMEWORK

Federal, State, and local laws, regulations, plans, and/or guidelines related to energy that are applicable to the proposed project are summarized in this section below.

Federal

Federal Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 was established in response to the 1973 oil crisis. The act created the Strategic Petroleum Reserve, established vehicle fuel economy standards, and prohibited the export of U.S. crude oil (with a few limited exceptions). It also created Corporate Average Fuel Economy (CAFE) standards for passenger cars starting in model year 1978. The CAFE Standards are updated periodically to account for changes in vehicle technologies, driver behavior, and/or driving conditions.

The federal government issued new CAFE standards in 2012 for model years 2017 to 2025 that required a fleet average of 54.5 miles per gallon (MPG) for model year 2025. However, on March 30, 2020, the Environmental Protection Agency (EPA) finalized an updated CAFE and greenhouse gas (GHG) emissions standards for passenger cars and light trucks and established new standards, covering model years 2021 through 2026, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021–2026. Under SAFE, the fuel economy standards will increase 1.5 percent per year compared to the 5 percent per year under the CAFE standards established in 2012. Overall, SAFE requires a fleet average of 40.4 MPG for model year 2026 vehicles (Federal Register 2020).

On January 20, 2021, President Biden issued Executive Order 13990 (EO 13990), which directs the EPA to reconsider SAFE for the purpose of rescinding the rule. The reconsideration process is ongoing with a planned public hearing occurring on June 2, 2021, which also started the public comment period that ended July 6, 2021. On August 5, 2021, the National Highway Traffic Safety Administration announced new proposed fuel standards in response to EO 13990. Fuel efficiency under the standards proposed would increase 8 percent annually for model years 2024 to 2026 and increase estimate fleetwide average by 12 mpg for model year 2026 relative to model year 2021 (NHTSA 2021).

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Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (Public Law 110-140) seeks to provide the nation with greater energy independence and security by increasing the production of clean renewable fuels; improving vehicle fuel economy; and increasing the efficiency of products, buildings, and vehicles. It also seeks to improve the energy performance of the federal government. The Act sets increased CAFE Standards; the Renewable Fuel Standard; appliance energy efficiency standards; building energy efficiency standards; and accelerated research and development tasks on renewable energy sources (e.g., solar energy, geothermal energy, and marine and hydrokinetic renewable energy technologies), carbon capture, and sequestration (USEPA 2019).

State Regulations

Warren-Alquist Act

Established in 1974, the Warren-Alquist Act created the California Energy Commission (CEC) in response to the energy crisis of the early 1970s and the state's unsustainable growing demand for energy resources. The CEC's core responsibilities include advancing State energy policy, encouraging energy efficiency, certifying thermal power plants, investing in energy innovation, developing renewable energy, transforming transportation, and preparing for energy emergencies. The Warren-Alquist Act is updated annually to address current energy needs and issues, and its latest edition was in January 2020.

Renewables Portfolio Standard

The California Renewables Portfolio Standard (RPS) was established in 2002 under Senate Bill (SB) 1078 and was amended in 2006, 2011 and 2018. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase the use of eligible renewable energy resources to 33 percent of total procurement by 2020. The California Public Utilities Commission is required to provide quarterly progress reports on progress toward RPS goals. This has accelerated the development of renewable energy projects throughout the State. For year 2020, the three largest retail energy utilities provided an average of 43 percent of its supplies from renewable energy sources. Community choice aggregators provided an average of 41 percent of its supplies from renewable sources (CPUC 2021).

Senate Bill 350

Senate Bill 350 (de Leon) (SB 350) was signed into law September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

Senate Bill 100

On September 10, 2018 SB 100 was signed, replacing the SB 350 requirements. Under SB 100, the RPS for publicly owned facilities and retail sellers will consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. SB 100 also established a new RPS requirement of 50 percent by 2026.

Furthermore, the bill established an overall State policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Appliance Efficiency Regulations

California's Appliance Efficiency Regulations contain energy performance, energy design, water performance, and water design standards for appliances (including refrigerators, ice makers, vending machines, freezers, water heaters, fans, boilers, washing machines, dryers, air conditioners, pool equipment, and plumbing fittings) that are sold or offered for sale in California (California Code of Regulations Title 20, Parts 1600–1608). These standards are updated regularly to allow consideration of new energy efficiency technologies and methods (CEC 2017).

Title 24, Part 6, Energy Efficiency Standards

Energy conservation standards for new residential and non-residential buildings throughout California were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977, and were most recently revised in 2019 (California Code of Regulations Title 24, Part 6, and associated regulations). The standards require the design of building shells and building components to conserve energy, and are updated on a triennial basis to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 Building Energy Efficiency Standards, which were adopted on May 9, 2018, went into effect starting January 1, 2020.

The 2019 standards move toward cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements (CEC 2018a). Under the 2019 standards, nonresidential buildings are 30 percent more energy efficient compared to the 2016 standards, and single-family homes are 7 percent more energy efficient (CEC 2018b). When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards (CEC 2018b).

On August 11, 2021, the CEC adopted the 2022 Building Energy Efficiency Standards, which were approved by the California Building Standards Commission in December 2021. The 2022 standards will become effective and replace the existing 2019 standards on January 1, 2023. The 2022 standards will require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements for high rise multi-family buildings (i.e., more than three stories) and non-commercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers.

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Title 24, Part 11, Green Building Standards

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (California Code of Regulations Title 24, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. It includes mandatory requirements for new residential and nonresidential buildings throughout California. CALGreen is intended to (1) reduce GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. The mandatory provisions of CALGreen became effective January 1, 2011, and are updated on a triennial basis. The CALGreen standards currently in effect were adopted in 2019 and became effective on January 1, 2020.

Overall, the purpose of CALGreen is to reduce construction waste, make buildings more efficient in the use of materials and energy, and reduce environmental impact during and after construction. CALGreen contains requirements for construction site selection, stormwater control during construction, construction waste reduction, indoor water use reduction, material selection, natural resource conservation, site irrigation conservation, and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their maximum efficiency (CEC 2019b).

Senate Bill 1389

SB 1389 (Public Resources Code Sections 25300–25323) requires the development of an integrated plan for electricity, natural gas, and transportation fuels. The CEC must adopt and transmit to the governor and legislature an integrated energy policy report every two years. The most recently completed report, the 2019 Integrated Energy Policy Report, addresses a variety of issues, including electricity sector trends; building decarbonization and energy efficiency; zero-emission vehicles; energy equity; climate change adaptation; electricity reliability in California; natural gas assessment; and electricity, natural gas, and transportation energy demand forecasts (CEC 2020b).

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and was anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles. In January 2012, the California Air Resources Board approved the Pavley Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions (CARB 2017).

Executive Order N-79-20

On September 23, 2020, Executive Order N-79-20 was issued, which sets a time frame for the transition to zero-emissions (ZE) passenger vehicles and trucks in addition to off-road equipment. It directs CARB to develop and propose the following:

- Passenger vehicle and truck regulations requiring increasing volumes of new ZEVs sold in the California toward the target of 100 percent of in-state sales by 2035.
- Medium- and heavy-duty vehicle regulations requiring increasing volumes of new ZE trucks and buses sold and operated in California toward the target of 100 percent of the fleet transitioning to ZEVs by 2045 everywhere feasible, and for all drayage trucks to be ZE by 2035.
- Strategies to achieve 100 percent zero emission from all off-road vehicles and equipment operations in California by 2035, in cooperation with other State agencies, the Environmental Protection Agency, and local air districts.

Local Regulations

City of Davis General Plan

The City of Davis General Plan contains goals, policies, standards, and actions pertaining to energy in the Energy (ENERGY) Element, as follows:

Goal ENERGY 1: Reduce per capita energy consumption in Davis.

Policy Energy 1.1: Develop programs to increase energy conservation on the household and business level.

Actions

- e. Study and implement options for providing incentives for property owners to upgrade their homes and businesses for improved energy conservation.
- f. Provide incentives for retrofitting existing homes and businesses for improved energy efficiency. An example of a retrofit feature would be a passive solar device.

Policy Energy 1.3: Promote the development and use of advanced energy technology and building materials in Davis.

Actions

- a. Use subsidies, expedited permit processing, density bonuses or other incentives to support implementation of photovoltaic and other renewable energy technologies to provide a portion of the City's energy needs.
- b. Promote energy-load management programs for both the residential and commercial sectors through an education and outreach program.

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Policy Energy 1.4: Continue to enforce landscaping requirements that facilitate efficient energy use or conservation.

Standards

- a. City projects should be designed with accompanying trees and other vegetation to minimize pavement, provide shade and reduce energy use.
- b. Energy efficient landscaping and preservation of existing shade trees is encouraged on all building sites.

Actions

- c. Provide information and education to residents on how, what type, and where to plant trees to reduce energy demand.

Policy Energy 1.5: Encourage the development of energy-efficient subdivisions and buildings.

Standards

- a. Natural factors such as cooling breezes, solar access, wind protection, and shade shall be considered in site and building design.
- b. Site planning should maximize the effects of cooling southwest winds to the extent possible.
- c. At least 80 percent of all residential lots in any proposed new development should be oriented so that buildings have their long axis within 22.5 degrees of east/west. Allow a developer not providing the required percentage to demonstrate that other site design, building design or construction measures would provide similar opportunities for conserving energy.

Actions

- d. Develop and implement energy-efficient design requirements that go beyond State building standards for energy efficiency.
- e. Develop design guidelines for climate-oriented site planning, building design and landscape design to promote energy efficiency.
- f. Establish a technical assistance program to help developers in complying with the energy code and implementing energy efficient technologies.
- g. Offer incentives to developers for projects that result in energy savings of at least 20 percent when compared to the energy consumption that would occur under similar projects built to meet the minimum standards of the energy code.
- h. Provide recognition for projects that maximize energy efficiency in the form of awards and presentations at council meetings.

- i. Develop an ordinance containing requirements and incentives for innovative, environmentally-friendly (also known as “green” or “sustainable”) development and building projects. Examples of projects that may qualify for such incentives may include:
 - Those incorporating innovative, technologically-advanced energy efficient design concepts significantly exceeding Title 24 standards.
 - Those utilizing “green” building materials and permaculture landscape concepts.
 - Those containing specific, implementable and sustainable measures for reduced dependence on automobile parking.

City of Davis 2010 Climate Action and Adaptation Plan

The City of Davis adopted the Davis Climate Action and Adaptation Plan (CAAP) in June 2010, which was prepared as a guide to achieve the greenhouse gas emissions reduction targets set for the City. (Davis 2010). The City is currently undergoing a comprehensive 2020-2040 CAAP Update, which will include measurable and enforceable actions to reduce greenhouse gases and increase energy efficiency. The CAAP is projected to be completed in early 2022. The 2010 CAAP identifies various objectives across nine sectors to meet the GHG reduction targets and includes the following objectives related to energy.

Energy

- **Objective 1:** Reduce total energy use in Davis by 5 percent from 2010 levels.
- **Objective 2:** Produce 5 percent of the total electricity used in Davis from renewable on-site and/or local sources.

Land Use and Buildings

- **Objective 1:** Achieve net zero energy use in all new buildings and homes.

City of Davis Municipal Code

The City of Davis regulates energy in the Specific Plan Area through Article 8.20, Renewable Energy, of the Davis Municipal Code. The intent of Article 8.20, Renewable Energy, is to encourage the use of renewable energy sources and to establish requirements and standards for the installation of solar energy and other renewable energy systems on new single-family dwellings or duplexes. Furthermore, the City of Davis has also adopted by reference the 2019 Building Energy Efficiency Standards and 2019 CALGreen into its municipal code, including the 2019 CALGreen voluntary tier 1 measures as set forth in Section 8.01.065 of the municipal code. The City also adopted reach green building code requirements for residential and nonresidential buildings in Sections 8.01.066 and 8.01.067 of the Davis Municipal Code, that have higher energy efficiency standards than CALGreen Tier 1.

4.5.1.2 EXISTING CONDITIONS

Electricity and Natural Gas

Electricity and natural gas service is provided to the City of Davis, including the Specific Plan Area, by the Pacific Gas and Electric Company (PG&E). Since June 2018, Davis has additionally received electricity

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through Valley Clean Energy (VCE), a Community Choice Energy joint powers authority that was formed by the City of Davis, City of Woodland, City of Winters, and County of Yolo. VCE's mission is to "deliver cost-competitive clean electricity, product choice, price stability, energy efficiency, and greenhouse gas emission reductions." Customers in the VCE service territory may choose to "opt out" and remain in PG&E electricity service.

Pacific Gas and Electric

Electricity

PG&E is a publicly traded utility company that generates, purchases, and transmits energy under contract with the California Public Utilities Commission. Its service territory is 70,000 square miles, roughly extending north to south from Eureka to Bakersfield, and east to west from the Sierra Nevada mountain range to the Pacific Ocean. The electricity distribution system of PG&E consists of 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines. PG&E owns and maintains above- and below-ground networks of electric and gas transmission and distribution facilities throughout the region.

PG&E electricity is generated by a combination of sources such as coal-fired power plants, nuclear power plants, and hydro-electric dams as well as newer sources of energy, such as wind turbines and photovoltaic plants or "solar farms." "The Grid," or bulk electric grid, is a network of high-voltage transmission lines linked to power plants in the PG&E system. The distribution system, consisting of lower-voltage secondary lines, is at the street and neighborhood level, with overhead or underground distribution lines, transformers, and individual service "drops" that connect to the individual customer. Total electricity consumption in PG&E's service area was 104,855 gigawatt-hours in 2019 (CEC 2020a). Sources of electricity sold by PG&E under the base plan in 2019, the latest year for which data are available, were (CEC 2019a):

- 29 percent renewable, consisting mostly of solar and wind
- 27 percent large hydroelectric
- 0 percent natural gas
- 44 percent nuclear

Natural Gas

PG&E natural gas transmission pipeline systems serve approximately 4.3 million customers in northern and central California. The system is operated under an inspection and monitoring program. The system operates in real time on a 24-hour basis and includes leak inspections, surveys, and patrols of the pipelines. A new program, the Pipeline 2020 program, aims to modernize critical pipeline infrastructure; expand the use of automatic or remotely operated shut-off valves; catalyze development of next-generation inspection technologies; develop industry-leading best practices; and enhance public safety partnerships with local communities, public officials, and first responders. Total natural gas consumption in PG&E's service area was 497,023,773,121 thousand-British thermal units (kBtu) for 2018 (CEC 2020c).

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Valley Clean Energy

VCE provides electricity generated from renewable sources such as solar, wind, biomass, bio-waste, geothermal, and hydropower, which is delivered to customers through PG&E transmission lines (VCE 2021a). Customers within the City of Davis, including customers in the Specific Plan Area, are automatically enrolled in the VCE Standard Green program when they establish a new energy supply connection with PG&E. The Standard Green program ensures that customers signed up for PG&E electricity service receive a portion of their electricity from renewable energy sources supplied by VCE (VCE 2021b). Sources of electricity sold by VCE under the Standard Green plan in 2020, the latest year for which data are available, were (VCE 2021c):

- 44 percent renewable, consisting mostly of solar and wind
- 36 percent large hydroelectric
- 0 percent natural gas
- 20 percent unspecified power

Customers have the option of opting up to VCE’s UltraGreen service, which provides 100 percent renewable and carbon-free electricity (VCE 2021d). Conversely, customers have the option to opt-out of VCE renewable energy sources and receive their energy service from PG&E (VCE 2021e). PG&E is responsible for maintaining transmission lines, handling customer billing, and responding to new service requests and emergencies.

Existing Electricity and Natural Gas Demand

The existing electricity and natural gas use demand within the Downtown Davis Specific Plan Area is shown in Table 4.5-1, *Downtown Davis Specific Plan Existing Annual Electricity and Natural Gas Demand*.

TABLE 4.5-1 DOWNTOWN DAVIS SPECIFIC PLAN EXISTING ANNUAL ELECTRICITY AND NATURAL GAS DEMAND

Land Use	CalEEMod Land Use Category	Electricity (kWh/year) ^a	Natural Gas (kBtu/year) ^a
Single Family Residential	Single Family Housing	765,156	4,524,930 ^b
Multi-Family Residential	Apartments Low-Rise	1,573,530	9,141,958 ^b
Industrial	General Light Industrial	234,914	533,741
Office & Medical Office	General Office Building	6,064,960	10,393,400
Institutional	Government Office Building	498,420	854,130
Restaurant	High Turnover (Sit Down Restaurant)	12,082,000	39,675,700
Hotel	Hotel	2,879,490	9,930,240
Retail	Strip Mall	3,960,660	4,064,450
Park	City Park	0	0
Total		28,059,130	79,118,549

Notes: Manual summation of values may not equal to the totals shown due to rounding; kWh=kilowatt hour; kBtu=1,000 British thermal units

a. Based on the historical CalEEMod energy rates, which are based on the 2005 Building Energy Efficiency Standards.

b. Also Includes natural gas usage associated with the natural gas fireplaces.

Source: CalEEMod, Version 2020.4.0.

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Transportation Fuels

In 2019, California consumed 15.4 billion gallons of gasoline and 3.1 billion gallons of diesel fuel (CDTFA 2021a, 2021b). According to CARB's Emissions Factor (EMFAC) Database, on-road transportation sources within Yolo County consumed 89.3 million gallons of gasoline per year and 26.5 million gallons of diesel fuel per year in 2019.

Estimated Existing Transportation Fuel Usage

Table 4.5-2, *Existing Operation-Related Annual Fuel Usage*, shows the fuel usage associated with VMT currently generated under existing baseline conditions based on fuel usage data obtained from EMFAC2017, Version 1.0.3, and VMT data provided by Fehr & Peers (see Appendix 4.13-1).

TABLE 4.5-2 DOWNTOWN DAVIS SPECIFIC PLAN EXISTING ANNUAL FUEL USAGE

Scenario	Gas		Diesel		Compressed Natural Gas		Electricity	
	VMT ^a	Gallons	VMT ^a	Gallons	VMT ^a	Gallons	VMT ^a	Gallons
Existing Year 2019	14,488,881	629,907	1,176,632	101,944	8,180	2,033	87,497	29,324

Notes: VMT=vehicle miles traveled

a. Based on data provided by Fehr & Peers.

Source: EMFAC2017 Version 1.0.3

4.5.2 STANDARDS OF SIGNIFICANCE

Implementation of the proposed project would result in a significant energy impact if it would:

1. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
2. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

4.5.3 IMPACT DISCUSSION

4.5.3.1 METHODOLOGY

The energy and fuel usage information provided in this section are based on the following:

- **Building Energy:** Building electricity and natural gas demands are based on the CalEEMod default natural gas and electricity usage rates. The CalEEMod historical energy rates, which are based on the 2005 Building Energy Efficiency Standards, are utilized for the existing buildings. New buildings are assumed to comply with the 2019 Building Energy Efficiency Standards.
- **On-Road Vehicle Fuel Usage:** Fuel usage associated with operation-related vehicle trips are based on fuel usage data obtained from EMFAC2017, Version 1.0.3, and on daily VMT and average daily trip (ADT) generation data provided by Fehr and Peers (see Appendix 4.13-1).

4.5.3.2 PLANS, PROGRAMS, AND POLICIES

Downtown Davis Specific Plan

The Downtown Davis Specific Plan suggests the following implementation actions which would contribute to reductions in impacts related to energy usage in the Specific Plan Area:

Table 8H, Implementation Actions: Sustainability

- **Action 1:** Electrify Downtown Buildings by 2040, With Exceptions as Deemed Necessary
 - **Methodology/Step 1B:** Transition all restaurants, commercial, office and residential uses to electric space and water heating, appliances, etc., including heat pumps for new or replacement boilers and other energy efficient technology.
 - **Methodology/Step 1C:** Incentivize new and emerging technologies in building design and energy efficiency for new and retrofit projects.
 - **Methodology/Step 1D:** Require net zero energy for new and retrofit construction, beyond current Title 24 and CALGreen requirements.
 - **Methodology/Step 1E:** Implement energy production (e.g. solar) requirements on all buildings (residential and non- residential/commercial) where not currently required.
 - **Methodology/Step 1F:** Explore collaboration with UC Davis' plans for district heating system.
- **Action 2:** Create a Downtown that is Microgrid and Storage-Ready.
 - **Methodology/Step 2A:** Coordinate microgrid feasibility and planning with local utilities.
 - **Methodology/Step 2B:** Consider electric vehicle (EV) fleet as part of electric load demand management.
 - **Methodology/Step 2C:** Embed microgrid and storage requirements in zoning, building codes.
- **Action 3:** Create a Carbon Mitigation Fund.
 - **Methodology/Step 3A:** Municipal fund: Cost savings from energy efficiency and greenhouse gas (GHG) savings go into fund to be used to spur further investments in reducing energy use.
 - **Methodology/Step 3B:** Residential/commercial fund: Implement developer impact fees (See Utility Rate Advisory Commission (URAC) resolution for recommended language on districtwide mitigation fund).
- **Action 4:** Aim to Electrify All Fuel-Dependent Downtown Transportation by 2040.
 - **Methodology/Step 4A:** Plan for electric vehicle (EV) charging for all vehicles (personal, shared, commercial, bus/ shuttle), and ensure electrical infrastructure to handle loads.
 - **Methodology/Step 4B:** Aim to fully electrify City of Davis fleet and Unitrans fleet.
 - **Methodology/Step 4C:** Embed EV infrastructure requirements in zoning, building codes.

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4.5.3.3 IMPACT ANALYSIS

EN-1	Implementation of the proposed project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.

Short-Term Construction Impacts

Construction of future development in the Specific Plan Area would create temporary increased demands for electricity and vehicle fuels and would result in short-term transportation-related energy use.

Electrical Energy

Construction of development facilitated by the proposed project would require electricity use to power some construction equipment. The electricity use during construction would vary during different phases of construction, where the majority of construction equipment during demolition and grading would be gas-powered or diesel-powered, and the later construction phases would require electricity-powered equipment for some tasks, such as interior construction and architectural coatings. Overall, the use of electricity would be temporary in nature and would fluctuate according to the phase of construction. Additionally, it is anticipated that the majority of electric-powered construction equipment would be hand tools (e.g., power drills, table saws, compressors) and lighting, which would result in minimal electricity usage during construction activities. Therefore, project-related construction activities would not result in wasteful or unnecessary electricity demands and impacts would be less than significant.

Natural Gas Energy

It is not anticipated that construction equipment used for development facilitated by the proposed project would be powered by natural gas and no increase in natural gas demand is anticipated during construction. Therefore, no impact would occur with respect to natural gas usage.

Transportation Energy

Transportation energy use depends on the type and number of trips, vehicle miles traveled, fuel efficiency of vehicles, and travel mode. Transportation energy use during construction would come from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction employee vehicles that would use diesel fuel and/or gasoline. It is anticipated that the majority of off-road construction equipment, such as those used during demolition and grading, would be gas- or diesel-powered, although on-road vehicles associated with construction worker and vendor trips continue to become more fuel efficient over time. The use of energy resources by these vehicles and construction equipment would fluctuate according to the phase of construction for individual future development projects and would be temporary. In addition, construction equipment use would cease upon completion of construction of an individual project. Furthermore, to limit wasteful and unnecessary energy consumption, the construction contractors are required to minimize nonessential idling of construction equipment during construction, in accordance with Section 2449 of the California Code of Regulations,

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Title 13, Article 4.8, Chapter 9. In addition, it is anticipated that electrical energy would be available for use during construction from existing power lines and connections, minimizing or avoiding the use of generators that are less efficient than tying into existing electrical infrastructure. Overall, construction energy and fuel demands associated with land use developments accommodated under the Downtown Davis Specific Plan are not anticipated to be sufficient magnitude to require new infrastructure to be constructed to supply construction activities. Therefore, project-related construction activities would not result in wasteful or unnecessary energy demands, and impacts would be less than significant.

Long Term Operation Impacts

Operation of the new development projects accommodated under the Specific Plan would create additional demand for electricity and natural gas compared to existing conditions and would result in increased transportation energy use. Operational use of energy would include heating, cooling, and ventilation of buildings, water heating, operation of electrical systems, use of on-site equipment and appliances, and lighting.

Non-Transportation Energy

The estimated net electricity and natural gas consumption for the Specific Plan Area is shown in Table 4.5-3, *Downtown Davis Specific Plan Annual Electricity and Natural Gas Demand*.

TABLE 4.5-3 DOWNTOWN DAVIS SPECIFIC PLAN ANNUAL ELECTRICITY AND NATURAL GAS DEMAND

Land Use	CalEEMod Land Use Category	Electricity (kWh/year)	Natural Gas (kBtu/year)
Single Family Residential	Single Family Housing	765,156	4,524,930 ^a
Multi-Family Residential	Apartments Low-Rise	5,665,520	28,916,358 ^a
Industrial	General Light Industrial	234,914	533,741
Office & Medical Office	General Office Building	10,701,760	18,217,400
Institutional	Government Office Building	1,078,020	1,832,130
Restaurant	High Turnover (Sit Down Restaurant)	13,012,057	42,978,160
Hotel	Hotel	2,879,490	9,930,240
Retail	Strip Mall	4,303,750	4,413,877
Park	City Park	0	0
Total Proposed Project^b		38,640,667^c	111,346,836^c
Total Existing		28,059,130	79,118,549
Net Change		10,581,537	32,228,287

Notes: Manual summation of values may not equal to the totals shown due to rounding; kWh=kilowatt hour; kBtu=1,000 British thermal units

a. Also Includes natural gas usage associated with the natural gas fireplaces.

b. Represents the combined energy demand from both the existing uses and proposed new uses.

c. Energy demand for the proposed new uses are based on the default CalEEMod energy rates, which are based on the 2019 Building Energy Efficiency Standards. Energy demand for the existing uses are based on the default historical CalEEMod energy rates, which are based on the 2005 Building Energy Efficiency Standards.

Source: CalEEMod, Version 2020.4.0.

As shown in the Table 4.5-3, implementation of the Downtown Davis Specific Plan would result in a net increase in electricity use of 10,581,537 kWh/year and an increase in natural gas use of 32,228,287 kBtu/year. While implementation of the Downtown Davis Specific Plan would increase energy demand

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compared to existing conditions, the future developments under the project would be required to comply with the latest applicable building code standards, including the Building Energy Efficiency Standards.

Under the 2019 Building Energy Efficiency Standards, future residential buildings of three stories and less in the Plan Area would be required to install solar PV systems. Additionally, under the 2022 Building Energy Efficiency Standards are adopted, the PV systems requirement would extend to more residential land use types and would also extend to certain non-residential land uses. Section 8.01.066 of the Davis Municipal Code further requires that new single-family and low-rise multifamily “mixed-fuel” dwellings meet a specified Total Energy Design Rating and include capacity for a future retrofit to facilitate the installation of all electric appliances, and Section 8.01.067 requires that new high-rise multifamily dwellings and non-residential buildings comply with the Tier 1 requirement for energy efficiency, include a PV system sized to offset a portion of energy used, and incorporate EV charging stations.

Furthermore, the proposed project includes implementation measures that focus on transitioning buildings to full electrification, increasing energy efficiency and renewable energy production, and introducing electricity storage. As an example, the Specific Plan suggests transitioning all restaurants, commercial, office, and residential uses to electric space and water heating; and incentivizing new and emerging technologies in building design and energy efficiency for new and retrofit projects. Action 1 also includes requiring net zero energy for new and retrofit construction beyond Title 24 and CALGreen requirements, and to implementing energy production requirements on all residential and non-residential buildings that are not required under the Building Energy Efficiency Standards. Additionally, Action 2 under Implementation Action Table 8H focuses on the creation of a microgrid and energy storage for the Downtown area.

To accommodate the new development that would be facilitated under the Downtown Davis Specific Plan, some of the existing land uses could be removed. Because the existing buildings were built and designed to comply with older building standards, the newer replacement buildings would be more energy efficient as they would be constructed in compliance with design guidelines or requirements created through the implementation actions of the proposed project and energy efficiency regulatory requirements. Overall, in consideration of the factors discussed above, operation-related energy usage associated with the proposed project would not be inefficient, wasteful, or unnecessary. Therefore, impacts would be less than significant with respect to non-transportation energy.

Transportation Energy

Vehicle trips associated with land use development projects accommodated under the Downtown Davis Specific Plan and associated Downtown Code would result in the consumption of transportation energy. Because the efficiency of the motor vehicles that will be used by such development projects is unknown—such as the average miles per gallon—estimates of transportation energy use are based on the overall VMT and related transportation energy use. As shown in Table 4.5-4, *Downtown Davis Specific Plan Annual Fuel Usage*, implementation of the Specific Plan would result in an overall increase in VMT due to the increase in population and employment anticipated at buildout. However, implementation of the Downtown Davis Specific Plan would provide more employment opportunities and, overall, would move the City’s the jobs-housing ratio towards a more balanced ratio (see Impact PH-1 of this DEIR). Furthermore, as discussed in Impact GHG-2 of this Draft EIR, while implementation of the Specific Plan

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would result in an increase in daily VMT, VMT per service population (VMT/SP) would decrease from 96.6 VMT/SP down to 62.4 VMT/SP compared to existing conditions. The decrease in VMT per service population indicates the proposed project would result in more efficient use of transportation fuels compared to transportation fuel demands associated with the existing uses. Therefore, overall, energy impacts associated with implementation and operation of land uses accommodated under the Downtown Davis Specific Plan and Downtown Code would be less than significant with respect to transportation energy.

TABLE 4.5-4 DOWNTOWN DAVIS SPECIFIC PLAN ANNUAL FUEL USAGE

Scenario	Gas		Diesel		Compressed Natural Gas		Electricity	
	VMT ^a	Gallons	VMT ^a	Gallons	VMT ^a	Gallons	VMT ^a	Gallons
Proposed Project – Year 2040	25,444,470	709,507	2,304,587	161,711	22,899	5,613	1,197,505	337,344
Existing – Year 2040	17,183,062	479,142	1,556,325	109,206	15,464	3,791	808,695	227,814
Net Change	8,261,408	230,366	748,262	52,505	7,435	1,823	388,811	109,530

Notes: VMT=vehicle miles traveled

a. Based on data provided by Fehr & Peers.

Source: EMFAC2017 Version 1.0.3

Significance Without Mitigation: Less than significant.

EN-2 Implementation of the proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The following evaluates consistency of the Downtown Davis Specific Plan and Downtown Code with California's RPS program, the energy-related objectives of the City's 2010 CAAP, and the energy-related goal and policies of the City's General Plan.

California Renewables Portfolio Standard Program

The state's electricity grid is transitioning to renewable energy under California's RPS Program. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The RPS goals have been updated since adoption of Senate Bill 1078 in 2002. In general, California has RPS requirements of 33 percent renewable energy by 2020 (Senate Bill X1-2), 44 percent by 2024, 50 by 2026, 52 percent by 2027, 60 percent by 2030, and 100 percent by 2045. The RPS requirements established under SB 100 are also applicable to publicly owned utilities. The statewide RPS requirements do not directly apply to individual development projects, but rather to utilities and energy providers such as PG&E, whose compliance with RPS requirements would contribute to the state objective of transitioning to renewable energy.

As discussed above in Impact EN-1, the residential and commercial land uses accommodated under the Specific Plan would comply with the current and future iterations of the Building Energy Efficiency Standards and CALGreen. Under the 2019 Building Energy Efficiency Standards, future multifamily buildings of three stories and less in the proposed project area would be required to install solar PV

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systems, while non-residential buildings and residential buildings of four stories and more would be required to be solar ready. Furthermore, the Downtown Davis Specific Plan includes implementation actions focused on increasing the amount of onsite production of renewable energy and renewable energy use overall. Therefore, implementation of the proposed project would not conflict or obstruct implementation of California's RPS Program, and no impact would occur.

City of Davis 2010 CAAP

Table 4.5-5, *Project Consistency With the City of Davis 2010 Climate Action and Adaptation Plan*, evaluates consistency of the Downtown Davis Specific Plan and Downtown Code to the energy-related objectives of the 2010 CAAP. As shown in the table, the proposed project would be generally consistent with the energy-related objectives. Therefore, implementation of the Downtown Davis Specific Plan would not be inconsistent or interfere with implementation of the City's 2010 CAAP and impacts are considered less than significant.

TABLE 4.5-5 PROJECT CONSISTENCY WITH THE CITY OF DAVIS 2010 CLIMATE ACTION AND ADAPTATION PLAN

Objectives	Project Consistency
Energy	
Objective 1: Reduce total energy use in Davis by 5 percent from 2010 levels.	Consistent: Action 1 under Implementation Action Table 8H of the Specific Plan consists of transitioning all restaurants, commercial, office, and residential uses to electric space and water heating, incentivizing new and emerging technologies in building design and energy efficiency for new and retrofit projects, and requiring net zero energy for new and retrofit construction beyond Title 24 and CALGreen requirements.
Objective 2: Produce 5 percent of the total electricity used in Davis from renewable on-site and/or local sources.	Consistent: Action 1 under Implementation Action Table 8H of the Specific Plan consists of implementing energy production requirements on all buildings (residential and non-residential) where not currently required. Additionally, Action 2 calls for coordinating microgrid feasibility and planning, and embedding microgrid and storage requirements in zoning and building codes.
Land Use and Buildings	
Objective 1: Achieve net zero energy use in all new buildings and homes.	Consistent: See the Energy Objectives 1 and 2 discussions.

Source: City of Davis. 2010, June 1, Staff Report: Adoption Davis Climate Action and Adaptation Plan.

City of Davis General Plan

Table 4.5-6, *Project Consistency With the City of Davis General Plan*, evaluates consistency of the Downtown Davis Specific Plan to the energy-related goal and policies of the City of Davis General Plan. As shown in the table, the proposed project would be generally consistent with the energy-related policies. Therefore, implementation of the Downtown Davis Specific Plan would not be inconsistent or interfere with implementation of the City's General Plan and impacts are considered less than significant.

TABLE 4.5-6 PROJECT CONSISTENCY WITH THE CITY OF DAVIS GENERAL PLAN

Objectives	Project Consistency
Goal Energy 1: Reduce per capita energy consumption in Davis	
Policy Energy 1.1 Develop programs to increase energy conservation on the household and business level.	Consistent: Action 1 under Implementation Action Table 8H provides for transitioning all restaurants, commercial, office, and residential uses to electric space and water heating, and incentivizing new and emerging technologies in building design and energy efficiency for new and retrofit projects. Action 3 directs for the creation of carbon mitigation fund that can be used to spur further investments in reducing energy use.
Policy Energy 1.3: Promote the development and use of advanced energy technology and building materials in Davis.	Consistent: Action 1 under Implementation Action Table 8H of the proposed Specific Plan consists of implementing energy production requirements on all buildings (residential and non-residential) where not currently required, and incentivizing new and emerging technologies in building design and energy efficiency for new and retrofit projects. Furthermore, Action 2 under Implementation Action Table 8H focuses on the creation of a microgrid and energy storage for the Downtown area.
Policy Energy 1.4: Continue to enforce landscaping requirements that facilitate efficient energy use or conservation.	Consistent: Action 5 under Implementation Action Table 8H of the proposed Specific Plan focuses on implementing a graywater integration plan and considers setting a Net Zero Water standard in Downtown. In addition, Action 3 and Action 4 of Implementation Action Table 8F call for exploring the establishment of a water reuse district in the Heart of Downtown district and setting a Downtown water use target. In general, water reuse can minimize energy use by eliminating the energy needed to transport and treat wastewater.
Policy Energy 1.5: Encourage the development of energy-efficient subdivisions and buildings.	Consistent: Action 1 under Implementation Action Table 8H consists of incentivizing new and emerging technologies in building design and energy efficiency for new and retrofit projects, and requiring net zero energy for new and retrofit construction beyond Title 24 and CALGreen requirements.

Source: City of Davis, 2001, May, City of Davis General Plan.

Based on the above, the proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Significance Without Mitigation: Less than significant.

4.5.4 CUMULATIVE IMPACTS

EN-3 Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to energy conservation and renewable energy.

The area considered for cumulative impacts to energy consumption is the service area of VCE and PG&E as described above in Section 4.5.1.2. In addition to the proposed project, other development projects within VCE and PG&E service areas would result in a long-term increase in operational energy demand for electricity and natural gas use. Cumulative construction activities would also require the use of energy for purposes such as the operation of construction equipment and tools, and construction of development projects may overlap. However, all projects developed within the VCE and PG&E service areas would

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implement the applicable requirements of the 2019 Building Energy Efficiency Standards and the 2019 CALGreen standards, and would be required to comply with other applicable federal, state, and local measures aimed at reducing fossil fuel consumption and the conservation of energy. New buildings would also use new energy efficient appliances and equipment. Furthermore, as described in Impact EN-1 and Impact EN-2, the proposed project includes components that would support increasing renewable sources of energy and energy efficiency that would also contribute to minimizing wasteful energy consumption.

Future development would also increase annual fuel consumption. However, vehicles would be subject to the US EPA CAFE standards for vehicular fuel efficiency and fuel economy continues to increase as a result of State and federal laws, including the Pavley Advanced Clean Cars program. Vehicle turnover also improves the overall fuel economy of California's vehicle fleets.

All of the factors considered above would minimize inefficient, wasteful, or unnecessary energy consumption by the proposed project and other cumulative development. Accordingly, the project and identified cumulative projects would result in a less than significant cumulative impact, and the project's contribution to the impact would be less than cumulatively considerable.

Significance Without Mitigation: Less than significant.

4.5.5 REFERENCES

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GREENHOUSE GAS EMISSIONS

4.6 GREENHOUSE GAS EMISSIONS

This chapter describes the potential greenhouse gas (GHG) emissions impacts associated with the approval and implementation of the proposed Downtown Davis Specific Plan. This chapter describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, provides an analysis of the potential greenhouse gas emission impacts, and identifies feasible mitigation measures that could mitigate any potentially significant impacts.

The proposed buildout is modeled using the California Emissions Estimator Model (CalEEMod2020.4.0); and trip generation and vehicle miles traveled (VMT) provided by Fehr & Peers (see Chapter 4.13, Transportation, of this Draft EIR). The GHG emissions modeling is included in Appendix 4.6-1, Air Quality and Greenhouse Gas Emissions, of this Draft EIR:

The following are definitions for terms used throughout this chapter.

- **Greenhouse gases (GHG).** Gases in the atmosphere that absorb infrared light, thereby retaining heat in the atmosphere and contributing to a greenhouse effect.
- **Global warming potential (GWP).** Metric used to describe how much heat a molecule of a GHG absorbs relative to a molecule of carbon dioxide (CO₂) over a given period of time (20, 100, and 500 years). CO₂ has a GWP of 1.
- **Carbon-dioxide equivalent (CO₂e).** The standard unit to measure the amount of GHGs in terms of the amount of CO₂ that would cause the same amount of warming. CO₂e is based on the GWP ratios between the various GHGs relative to CO₂.
- **Carbon neutrality.** The point at which the removal of carbon pollution from the atmosphere meets or exceeds emissions. Under a total carbon neutral target, all GHG emissions from all sources, are reduced to zero.
- **Compliance offsets.** This type of offset is specific to the California Air Resources Board's (CARB) Cap-and-Trade Program.
- **MTCO₂e.** Metric ton of CO₂e.
- **MMTCO₂e.** Million metric tons of CO₂e.
- **Voluntary carbon offsets.** The Voluntary Carbon Offset Program provides a market for the voluntary reduction, avoidable, or sequestration of CO₂e that exceeds current regulatory requirements.

4.6.1 ENVIRONMENTAL SETTING

4.6.1.1 GREENHOUSE GASES AND CLIMATE CHANGE

Human activities contribute to global climate change by adding large amounts of heat-trapping gases, known as GHG, to the atmosphere. The primary source of GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO₂), methane (CH₄), and ozone (O₃)—that may cause an increase in global average temperatures. Other GHGs identified by the IPCC that contribute to global warming to a lesser extent include nitrous oxide (N₂O),

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sulfur hexafluoride (SF₆), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001). Water vapor (H₂O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant because it is considered part of the feedback loop of radiative forcing. Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities (CARB 2017a). However, State and national GHG inventories do not include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon. The major GHGs are briefly described as follows:

- **Carbon dioxide (CO₂)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH₄)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.
- **Nitrous oxide (N₂O)** is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have a stronger greenhouse effect than others. These are referred to as high GWP gases. The GWP of applicable GHG emissions are shown in Table 4.6-1, *GHG Emissions and Their Relative Global Warming Potential Compared to CO₂*. The GWP is used to convert GHGs to CO₂-equivalence (CO₂e) to show the relative potential that different GHGs have to contribute to the greenhouse effect. The global warming potential of a GHG is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, under IPCC's Fifth Assessment Report (AR5) GWP values for CH₄, a project that generates 10 metric tons (MT) of CH₄ would be equivalent to 280 MT of CO₂.

TABLE 4.6-1 GHG EMISSIONS AND THEIR RELATIVE GLOBAL WARMING POTENTIAL COMPARED TO CO₂

GHGs	Fourth Assessment Report (AR4) Global Warming Potential Relative to CO ₂ ^a	Fifth Assessment Report (AR5) Global Warming Potential Relative to CO ₂ ^a
Carbon Dioxide (CO ₂)	1	1
Methane ^b (CH ₄)	25	28
Nitrous Oxide (N ₂ O)	298	265
Hydrofluorocarbons:		
HFC-134 a	1,430	1,300

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TABLE 4.6-1 GHG EMISSIONS AND THEIR RELATIVE GLOBAL WARMING POTENTIAL COMPARED TO CO₂

GHGs	Fourth Assessment Report (AR4) Global Warming Potential Relative to CO ₂ ^a	Fifth Assessment Report (AR5) Global Warming Potential Relative to CO ₂ ^a
R-401A		17.94
R-404A		3,943
R-408A		2,430
R-410A		1,924
R-438A		2,059

Notes:

a. Based on 100-year time horizon of the GWP of the air pollutant compared to CO₂.

b. The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO₂ is not included.

Source: IPCC 2007; IPCC 2014

California's GHG Sources and Relative Contribution

In 2020, the statewide GHG emissions inventory was updated for 2000 to 2018 emissions using the GWPs in IPCC's AR4. The methodology for determining the statewide GHG inventory is not the same as the methodology used to determine statewide GHG emissions under Assembly Bill 32 (2006). Based on these GWPs, California produced 425.3 MMTCO₂e GHG emissions in 2018. California's transportation sector was the single largest generator of GHG emissions, producing 39.9 percent of the state's total emissions. Industrial sector emissions made up 21.0 percent, and electric power generation made up 14.8 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (9.7 percent), agriculture and forestry (7.7 percent), high GWP (4.8 percent), and recycling and waste (2.1 percent) (CARB 2020a).

Since the peak level in 2004, California statewide GHG emissions dropped below the 2020 GHG limit of 431 MMCO₂e in 2016 and have remained below the 2020 GHG limit since then. In 2018, emissions from routine GHG emitting activities statewide were 6 MMTCO₂e lower than the 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.0 MTCO₂e per person to 10.7 MTCO₂e per person in 2018, a 24 percent decrease. Transportation emissions decreased in 2018 compared to the previous year, which is the first year-over-year decrease since 2013. Since 2008, California's electricity sector has followed an overall downward trend in emissions. In 2018, solar power generation has continued its rapid growth since 2013. Emissions from high-GWP gases increased 2.3 percent in 2018 (2000–2018 average year-over-year increase is 6.8 percent), continuing the increasing trend as they replace ozone-depleting substances being phased out under the 1987 Montreal Protocol. Overall trends in the inventory also demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product [GDP]) is declining, representing a 43 percent decline since the 2001 peak, while the state's GDP has grown 59 percent during this period (CARB 2020b).

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Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHGs in the atmosphere remained relatively constant. During the 20th century, however, scientists observed a rapid change in the climate and the quantity of climate change pollutants in the Earth's atmosphere that is attributable to human activities. The amount of CO₂ in the atmosphere has increased by more than 35 percent since preindustrial times and has increased at an average rate of 1.4 parts per million per year since 1960, mainly due to combustion of fossil fuels and deforestation (IPCC 2007). These recent changes in the quantity and concentration of climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is warming at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants (CCAT 2006). In the past, gradual changes in temperature changed the distribution of species, availability of water, etc. However, human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but in a human's lifetime (IPCC 2007).

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are hard to predict. Projections of climate change depend heavily upon future human activity. Therefore, climate models are based on different emission scenarios that account for historical trends in emissions and on observations of the climate record that assess the human influence of the trend and projections for extreme weather events. Climate-change scenarios are affected by varying degrees of uncertainty, for example, on the magnitude of the trends for:

- Warmer and fewer cold days and nights over most land areas.
- Warmer and more frequent hot days and nights over most land areas.
- An increase in frequency of warm spells/heat waves over most land areas.
- An increase in frequency of heavy precipitation events (or proportion of total rainfall from heavy falls) over most areas.
- Larger areas affected by drought.
- Intense tropical cyclone activity increases.
- Increased incidence of extreme high sea level (excluding tsunamis).

Potential Climate Change Impacts for California

Observed changes over the last several decades across the western United States reveal clear signs of climate change. Statewide average temperatures increased by about 1.7 degrees Fahrenheit (°F) from 1895 to 2011, and warming has been greatest in the Sierra Nevada (CCCC 2012). The years from 2014 through 2016 have shown unprecedented temperatures, with 2014 being the warmest (OEHHA 2018). By 2050, California is projected to warm by approximately 2.7°F above 2000 average temperatures, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 5.6 to 8.8°F, depending on emissions levels (CNRA 2019).

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In California and western North America, observations of the climate have shown: 1) a trend toward warmer winter and spring temperatures; 2) a smaller fraction of precipitation falling as snow; 3) a decrease in the amount of spring snow accumulation in the lower and middle elevation mountain zones; 4) advanced shift in the timing of snowmelt of 5 to 30 days earlier in the spring; and 5) a similar shift (5 to 30 days earlier) in the timing of spring flower blooms (CCAT 2006). Overall, California has become drier over time, with five of the eight years of severe to extreme drought occurring between 2007 and 2016, and unprecedented dry years in 2014 and 2015. Statewide precipitation has become increasingly variable from year to year, with the driest consecutive four years occurring from 2012 to 2015 (OEHHA 2018).

According to the California Climate Action Team—a committee of State agency secretaries and the heads of agencies, boards, and departments, led by the Secretary of the California Environmental Protection Agency—even if actions could be taken to immediately curtail climate change emissions, the potency of emissions that have already built up, their long atmospheric lifetimes (see Table 4.6-1, GHG Emissions and Their Relative Global Warming Potential Compared to CO₂), and the inertia of the Earth’s climate system could produce as much as 0.6 degrees Celsius (°C) (1.1°F) of additional warming. Consequently, some impacts from climate change are now considered unavoidable. Global climate change risks to California are listed below and shown in Table 4.6-2, *Summary of GHG Emissions Risk to California*.

TABLE 4.6-2 SUMMARY OF GHG EMISSIONS RISK TO CALIFORNIA

Impact Category	Potential Risks
Public Health Impacts	Heat waves will be more frequent, hotter, and longer Poor air quality made worse Potential increases in intensity of rain events and increased flooding/ erosion Higher temperatures increase ground-level ozone (i.e., smog) levels
Water Resource Impacts	Decreasing Sierra Nevada snow pack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea Level Impacts	Accelerated sea level rise Increasing coastal floods Shrinking beaches Worsened impacts on infrastructure
Forest and Biological Resource Impacts	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pest and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand Impacts	Potential reduction in hydropower Increased energy demand

Sources: CCCC 2012; CEC 2006; CEC 2009; CNRA 2014; CNRA 2019.

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- **Water Resources Impacts.** By late this century, all projections show drying, and half of the projections suggest 30-year average precipitation will decline by more than 10 percent below the historical average. Even in projections with relatively little or no decline in precipitation, central and southern parts of the state are expected to be drier from the warming effects alone because the spring snowpack will melt sooner, and the moisture in soils will evaporate during long dry summer months (CCST 2012).
- **Wildfire Risks.** Earlier snowmelt, higher temperatures, and longer dry periods over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning. Human activities will continue to be the biggest factor in ignition risk. The number of large fires statewide is estimated to increase by 58 percent to 128 percent above historical levels by 2085. Under the same emissions scenario, estimated burned area will increase by 57 percent to 169 percent, depending on location (CCCC 2012).
- **Sea Level Rise.** Sea level rise threatens existing or planned infrastructure, development, and ecosystems (wetlands, estuaries, and fisheries) along California's coast. Critical infrastructure lies less than four feet above the high tide, including two international airports—Oakland and San Francisco — and about 172,000 homes (OEHHA 2018). Thermal expansion of ocean waters and melting glaciers have contributed to the rise in global mean sea level by seven inches. Along the California coast, sea levels have generally risen. Since 1900, mean sea level has increased by about seven inches at San Francisco and by about six inches since 1924 at La Jolla. In contrast, sea level at Crescent City has declined by about three inches since 1933 due to an uplift of the land surface from the movement of the Earth's plates (OEHHA 2018).
- **Health Impacts.** Many of the gravest threats to public health in California stem from the increase of extreme conditions, principally more frequent, more intense, and longer heat waves. Particular concern centers on the increasing tendency for multiple hot days in succession, and simultaneous heat waves in several regions throughout the state. In addition, there is also concern for more frequent and severe flooding and landslide from changes to hydrological conditions and increased wildfire risks due to climate change. Public health could also be affected by climate change impacts on air quality, food production, the amount and quality of water supplies, energy pricing and availability, and the spread of infectious diseases. Higher temperatures also increase ground-level ozone levels. Furthermore, wildfires can increase particulate air pollution in the major air basins of California (CCST 2012).
- **Increased Energy Demand.** Increases in average temperature and higher frequency of extreme heat events combined with new residential development across the state will drive up the demand for cooling in the increasingly hot and longer summer season and decrease demand for heating in the cooler season. Warmer, drier summers also increase system losses at natural gas plants (reduced efficiency in the electricity generation process at higher temperatures) and hydropower plants (lower reservoir levels). Transmission of electricity will also be affected by climate change. Transmission lines lose 7 percent to 8 percent of transmitting capacity in high temperatures while needing to transport greater loads. This means that more electricity needs to be produced to make up for the loss in capacity and the growing demand (CCST 2012).

GREENHOUSE GAS EMISSIONS**4.6.1.2 REGULATORY FRAMEWORK**

This section summarizes key federal, state, regional, and local regulations and programs related to GHG emissions resulting from the proposed project.

Federal

The U.S. Environmental Protection Agency (USEPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The USEPA's final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings did not themselves impose any emission reduction requirements but allowed the USEPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation (USEPA 2009a).

To regulate GHGs from passenger vehicles, the USEPA issued an endangerment finding (USEPA 2009b). The finding identifies emissions of six key GHGs—CO₂, CH₄, N₂O, HCFCs, PFCs, and SF₆—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world. The first three are applicable to the proposed project's GHG emissions inventory because they constitute the majority of GHG emissions and they are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

- **US Mandatory Report Rule for Greenhouse Gases (2009).** In response to the endangerment finding, the USEPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 metric tons (MT) or more of CO₂e per year are required to submit an annual report.
- **Update to Corporate Average Fuel Economy Standards (2021 to 2026).** The federal government issued new Corporate Average Fuel Economy (CAFE) standards in 2012 for model years 2017 to 2025, which required a fleet average of 54.5 miles per gallon in 2025. However, on March 30, 2020, the USEPA finalized an updated CAFE and GHG emissions standards for passenger cars and light trucks and established new, less stringent standards covering model years 2021 through 2026, known as The Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021-2026. However, a consortium of automakers and California have agreed on a voluntary framework to reduce emissions that can serve as an alternative path forward for clean vehicle standards nationwide. Automakers who agreed to the framework are Ford, Honda, BMW of North America, and Volkswagen Group of America. In late 2020, GM and Nissan also agreed to the voluntary framework. The framework supports continued annual reductions of vehicle greenhouse gas emissions through the 2026 model year, encourages innovation to accelerate the transition to electric vehicles, and gives industry the certainty needed to make investments and create jobs. This commitment means that the auto companies party to the voluntary agreement will only sell cars in the United States that meet these standards (CARB 2019). In addition, per Executive Order 13990 (EO 13990) issued by President Biden on January 20, 2021, the EPA is reconsidering SAFE for the purpose of rescinding the rule. The reconsideration process is ongoing after a public hearing held on June 2, 2021, which also started the public comment period that ended July 6, 2021. On August 5, 2021, the National Highway Traffic Safety Administration announced new proposed fuel standards in response to EO 13990. Fuel

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efficiency under the standards proposed would increase 8 percent annually for model years 2024 to 2026 and increase estimate fleetwide average by 12 mpg for model year 2026 relative to model year 2021 (NHTSA 2021).

- **USEPA Regulation of Stationary Sources under the Clean Air Act (Ongoing).** Pursuant to its authority under the Clean Air Act, the USEPA has been developing regulations for new, large stationary sources of emissions such as power plants and refineries. Under former President Obama's 2013 Climate Action Plan, the USEPA was directed to develop regulations for existing stationary sources as well. On June 19, 2019, the USEPA issued the final Affordable Clean Energy (ACE) rule, which became effective on August 19, 2019 following the Energy Independence Executive Order. It officially rescinds the Clean Power Plan rule issued during the previous administration and sets emissions guidelines for states in developing plans to limit CO₂ emissions from coal-fired power plants.

State

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-03-05, AB 32, SB 32, Executive Order B-30-15, Executive Order N-79-20, and SB 375. The major GHG regulations listed above are summarized in chronological order as follows:

Executive Order S-03-05

Executive Order S-03-05, signed June 1, 2005, set the following GHG reduction targets for the state:

- 2000 levels by 2010.
- 1990 levels by 2020.
- 80 percent below 1990 levels by 2050.

Assembly Bill 32

Also known as the Global Warming Solutions Act, AB 32 was signed August 31, 2006, in order to reduce California's contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-03-05.

CARB 2008 Scoping Plan. The first Scoping Plan was adopted by CARB on December 11, 2008. The 2008 Scoping Plan identified that GHG emissions in California are anticipated to be 596 MMTCO₂e in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 MMTCO₂e (471 million tons) for the state (CARB 2008). To effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 MTCO₂e per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012.

Cap and Trade. In 2011, CARB adopted a statewide cap-and-trade regulation—a key component of the 2008 Scoping Plan—covering sources of GHG emissions that emit more than 25,000 metric tons of CO₂ equivalent (CO₂e) per year. The covered sources are refineries, power plants, industrial facilities, and transportation fuels. The cap-and-trade program includes an enforceable statewide emissions cap that declines approximately 3 percent annually. CARB distributes allowances, which are tradable permits, equal

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to the emissions allowed under the cap. Sources that reduce emissions more than their limits can auction carbon allowances to other covered entities through the cap-and-trade market. Sources subject to the cap are required to surrender allowances and offsets equal to their emissions at the end of each compliance period. The cap-and-trade program took effect in early 2012 with the enforceable compliance obligation beginning January 1, 2013. The cap-and-trade program was initially slated to sunset in 2020, but the passage of SB 398 in 2017 extended the program through 2030. The cap-and-trade compliance offset program limits compliance offsets to no more of 4 percent of their compliance obligation for emissions from 2021-2025; and 6 percent for emissions from 2026-2030. Starting with 2021 emissions, no more than one half of the quantitative usage limit may be sourced from projects that do not provide direct environmental benefits in the state (DEBS).

First Update to the Scoping Plan (2013). CARB completed a five-year update to the 2008 Scoping Plan, as required by AB 32. The First Update to the Scoping Plan, adopted at the May 22, 2014, board hearing, highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the 2008 Scoping Plan. As part of the update, CARB recalculated the 1990 GHG emission levels with the updated AR4 GWPs, and the 427 MMTCO₂e 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, are slightly higher at 431 MMTCO₂e (CARB 2014). As identified in the Update to the Scoping Plan, California is on track to meeting the goals of AB 32. However, the update also addresses the State's longer-term GHG goals in a post-2020 element. The post-2020 element provides a high-level view of a long-term strategy for meeting the 2050 GHG goals, including a recommendation for the State to adopt a midterm target. According to the Update to the Scoping Plan, local government reduction targets should chart a reduction trajectory that is consistent with or exceeds the trajectory created by statewide goals (CARB 2014). CARB identified that reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant acceleration of GHG reduction rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit (CARB 2014).

Executive Order B-30-15

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions within the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires State agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in Executive Order S-03-05. It also requires the Natural Resources Agency to conduct triennial updates of the California adaption strategy, Safeguarding California, to ensure climate change is accounted for in State planning and investment decisions.

Senate Bill 32 and Assembly Bill 197

In September 2016, SB 32 and AB 197 were signed into law, making the Executive Order goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires the CARB to prioritize direct emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources. Executive Order B-

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30-15 and SB 32 required CARB to prepare another update to the Scoping Plan to address the 2030 target for the state.

On December 14, 2017, CARB adopted the 2017 Climate Change Scoping Plan Update (2017 Scoping Plan) to address the 2030 target for the State. The 2017 Scoping Plan establishes a new emissions limit of 260 MMTCO₂e for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030 (CARB 2017b).

California's climate strategy will require contributions from all sectors of the economy, including enhanced focus on zero- and near-zero emission vehicle technologies; continued investment in renewables, such as solar roofs, wind, and other types of distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (i.e., methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for GHG reductions at stationary sources complement local air pollution control efforts by the local air districts to tighten criteria air pollutants and toxic air contaminants emissions limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing zero emission vehicle buses and trucks.
- Low Carbon Fuel Standards (LCFS), with an increased stringency (18 percent by 2030).
- Implementation of SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deploys zero emissions vehicle trucks.
- Implementing the proposed Short-Lived Climate Strategy, which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

In addition to these statewide strategies, the 2017 Scoping Plan also identified local governments as essential partners in achieving the State's long-term GHG reduction goals and identified local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends statewide targets of no more than 6 MTCO₂e or less per capita by 2030 and 2 MTCO₂e or less per capita by 2050. CARB recommends that local governments evaluate and adopt robust and quantitative locally appropriate goals that align with the statewide per capita targets and the State's sustainable development objectives and develop plans to achieve the local goals. The statewide per capita goals were developed by applying the percentage reductions necessary to reach the 2030 and 2050 climate goals (i.e., 40 percent and 80 percent, respectively) to the State's 1990 emissions limit established under AB 32. For CEQA projects,

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CARB states that lead agencies have the discretion to develop evidenced-based numeric thresholds (mass emissions, per capita, or per service population)—consistent with the Scoping Plan and the State’s long-term GHG goals. To the degree a project relies on GHG mitigation measures, CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from vehicle miles traveled (VMT), and direct investments in GHG reductions within the project’s region that contribute potential air quality, health, and economic co-benefits. Where further project design or regional investments are infeasible or not proven to be effective, CARB recommends mitigating potential GHG impacts through purchasing and retiring carbon credits.

The Scoping Plan scenario is set against what is called the business-as-usual (BAU) yardstick—that is, what the GHG emissions would look like if the State did nothing at all beyond the existing policies that are required and already in place to achieve the 2020 limit, as shown in Table 4.6-3, *2017 Climate Change Scoping Plan Emissions Reductions Gap to Achieve the 2030 GHG Target*. It includes the existing renewables requirements, advanced clean cars, the “10 percent” LCFS, and the SB 375 program for more vibrant communities, among others. However, it does not include a range of new policies or measures that have been developed or put into statute over the past two years. Also shown in the table, the known commitments are expected to result in emissions that are 60 MMTCO₂e above the target in 2030. If the estimated GHG reductions from the known commitments are not realized due to delays in implementation or technology deployment, the post-2020 Cap-and-Trade Program would deliver the additional GHG reductions in the sectors it covers to ensure the 2030 target is achieved.

TABLE 4.6-3 2017 CLIMATE CHANGE SCOPING PLAN EMISSIONS REDUCTIONS GAP TO ACHIEVE THE 2030 GHG TARGET

Modeling Scenario	2030 GHG Emissions MMTCO ₂ e
Reference Scenario (Business-as-Usual)	389
With Known Commitments	320
2030 GHG Target	260
Gap to 2030 Target with Known Commitments	60

Source: CARB 2017b

Table 4.6-4, *2017 Climate Change Scoping Plan Emissions by Sector to Achieve the 2030 GHG Target*, provides estimated GHG emissions by sector, compared to 1990 levels, and the range of GHG emissions for each sector estimated for 2030.

TABLE 4.6-4 2017 CLIMATE CHANGE SCOPING PLAN EMISSIONS BY SECTOR TO ACHIEVE THE 2030 GHG TARGET

Scoping Plan Sector	1990 MMTCO ₂ e	2030 Proposed Plan Ranges MMTCO ₂ e	% Change from 1990
Agricultural	26	24-25	-8% to -4%
Residential and Commercial	44	38-40	-14% to -9%
Electric Power	108	30-53	-72% to -51%
High GWP	3	8-11	267% to 367%
Industrial	98	83-90	-15% to -8%
Recycling and Waste	7	8-9	14% to 29%

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TABLE 4.6-4 2017 CLIMATE CHANGE SCOPING PLAN EMISSIONS BY SECTOR TO ACHIEVE THE 2030 GHG TARGET

Scoping Plan Sector	1990 MMTCO ₂ e	2030 Proposed Plan Ranges MMTCO ₂ e	% Change from 1990
Transportation (including TCU)	152	103-111	-32% to -27%
Net Sink ^a	-7	TBD	TBD
Sub Total	431	294-339	-32% to -21%
Cap-and-Trade Program	NA	34-79	NA
Total	431	260	-40%

Notes: TCU = Transportation, Communications, and Utilities; TBD = To Be Determined.

a. Work is underway through 2017 to estimate the range of potential sequestration benefits from the natural and working lands sector.

Source: CARB 2017b

Executive Order B-55-18

Executive Order B-55-18, signed September 10, 2018, sets a goal “to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter.” Executive Order B-55-18 directs CARB to work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions should be offset by equivalent net removals of CO₂e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

Senate Bill 375

In 2008, SB 375, the Sustainable Communities and Climate Protection Act, was adopted to connect the GHG emissions reductions targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPO). The Sacramento Area Council of Governments (SACOG) is the MPO for the six-county Sacramento region. Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target.

Update to the SB 375 Targets. CARB is required to update the targets for the MPOs every eight years and adopted revised SB 375 targets for the MPOs in March 2018 (CARB 2018). The updated targets became effective on October 1, 2018. The targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update (for SB 32) while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks relative to 2005; this excludes reductions anticipated from implementation of state technology and fuels strategies and any potential future state strategies, such as statewide road user

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pricing. The proposed targets call for greater per-capita GHG emission reductions from SB 375 than are currently in place, which for 2035 translate into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted SCS to achieve the SB 375 targets. For the next SCS update, CARB's updated targets for the SACOG region are a 7 percent per capita GHG reduction in 2020 from 2005 levels (same as the 7 percent under the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 16 percent). CARB foresees that the additional GHG emissions reductions in 2035 may be achieved from land use changes, transportation investment, and technology strategies (CARB 2018).

Other Regulations that Affect GHG Emissions

Table 4.6-5, *List of Other Applicable State GHG Regulations*, provides a summary list of other regulations adopted in California that reduce GHG emissions.

TABLE 4.6-5 LIST OF OTHER APPLICABLE STATE GHG REGULATIONS

Sector	Regulations	
Transportation	AB 1493	AB 1493 (Pavley I) Reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016.
	Executive Order S-01-07	Established declining LCFS for transportation fuels sold in the state. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applies to refiners, blenders, producers, and importers of transportation fuels, and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods.
	Executive Order B-16-2012	Established benchmarks to accommodate zero-emissions vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directed the number of zero-emissions vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are ZE by 2015 and at least 25 percent by 2020. The executive order also established a target for the transportation sector of reducing GHG emissions 80 percent below 1990 levels by 2020.
	Executive Order N-79-20	Establishes a time frame for the transition to zero-emission passenger vehicles and trucks in addition to off-road equipment. It directs CARB to develop the following: 1) Passenger vehicle and truck regulations requiring increasing volumes of new zero emission vehicles sold California toward the target of 100 percent of in-state sales by 2035; 2) Medium- and heavy-duty vehicle regulations requiring increasing volumes of new ZE trucks and buses sold and operated in California toward the target of 100 percent of the fleet transitioning to ZEVs by 2045 everywhere feasible, and for all drayage trucks to be ZE by 2035; Strategies to achieve 100 percent zero emission from all off-road vehicles and equipment operations in California by 2035, in cooperation with other State agencies, the Environmental Protection Agency, and local air districts.

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TABLE 4.6-5 LIST OF OTHER APPLICABLE STATE GHG REGULATIONS

Sector	Regulations	
Renewable Energy	SB 107, SB X1-2, Executive Order S-14-08,	Renewables Portfolio Standard. Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08, signed in November 2008, expanded the state’s renewable energy standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2).
	SB 350	Established tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.
	SB 100	RPS for publicly owned facilities and retail sellers will consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill establishes an overall state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.
Energy Efficiency	Title 24, Part 6, Building Energy Efficiency Standards	Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2019 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 Building Energy Efficiency Standards, which were adopted on May 9, 2018, went into effect starting January 1, 2020. On August 11, 2021, the CEC adopted the 2022 Building Energy Efficiency Standards, which will be considered for approval by the California Building Standards Commission in December 2021. If approved, the 2022 standards would become effective and replace the existing 2019 standards on January 1, 2023. The 2022 standards would require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements for high rise multi-family buildings (i.e., more than three stories) and non-commercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers (CEC 2021).
	Title 24, Part 11, Green Building Standards Code (CALGreen)	On July 17, 2008, the California Building Standards Commission adopted the nation’s first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as “CALGreen”) was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2019. The 2019 CALGreen standards became effective January 1, 2020.
	Title 20, Appliance Efficiency Regulations	The 2006 Appliance Efficiency Regulations (20 CCR §§ 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. Though these regulations are now often viewed as “business as usual,” they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

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TABLE 4.6-5 LIST OF OTHER APPLICABLE STATE GHG REGULATIONS

Sector	Regulations
Solid Waste	AB 939 California’s Integrated Waste Management Act of 1989, AB 939 (Public Resources Code §§ 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.
	AB 341 AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses. Section 5.408 of CALGreen also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.
	AB 1327 The California Solid Waste Reuse and Recycling Access Act, AB 1327 (Public Resources Code §§ 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.
	AB 1826 In October of 2014, Governor Brown signed AB 1826 requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses and multifamily residential dwellings with five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed with food waste.
Water	SBX7-7 The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed “SBX7-7.” SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 required urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.
	AB 1881 The Water Conservation in Landscaping Act of 2006, AB 1881 requires local agencies to adopt the updated DWR model ordinance or an equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

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TABLE 4.6-5 LIST OF OTHER APPLICABLE STATE GHG REGULATIONS

Sector	Regulations
Short-Lived Climate Pollutants	SB 1383 On September 19, 2016, the governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and methane (CH₄). Black carbon is the light-absorbing component of fine particulate matter produced during incomplete combustion of fuels. SB 1383 required the state board, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. The bill also established targets for reducing organic waste in landfills, which includes a 50 percent reduction in statewide organic waste disposal from 2014 levels by 2020 and a 75 percent reduction from 2014 levels by 2025. Under SB 1383, jurisdictions are required to implement organic waste collection services for all residents and businesses by January 1, 2022. On March 14, 2017, CARB adopted the Short-Lived Climate Pollutant Reduction Strategy, which identifies the state's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s, despite the tripling of diesel fuel use (CARB 2017a). In-use, on-road rules are expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020.

Source: PlaceWorks 2021.

Regional

2020 Metropolitan Transportation Plan/Sustainable Communities Strategy

On November 18, 2019, SACOG adopted the 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS). The 2020 MTP/SCS is the third update to the MTP/SCS and describes development of the Sacramento region for the next twenty years. It integrates transportation and land use planning and strategies to reduce automotive travel and increase walking, bicycling, and transit use for the purpose of achieving the 19 percent per capita GHG reduction target for SACOG established under SB 375. The 2020 MTP/SCS projects its implementation would result in meeting the SB 375 GHG reduction target for SACOG.

Under the 2020 MTP/SCS, 33 percent of the regional housing and 31 percent of the regional employment demand are projected to occur in Center and Corridor Communities. Developing Communities are projected to incur 34 percent of new housing and 15 percent of new employment while 31 percent of new housing and 53 percent of employment demand are projected for Established Communities. Additionally, the 2020 MTP/SCS forecasts 28 percent of new dwelling units and 25 percent of new jobs would occur in the designated High Frequency Transit Areas (HFTA) (SACOG 2019). HFTAs are defined as areas within one-half mile of a major transit stop or high-quality transit corridor and spans across the various Community Types. A high-quality transit corridor is a corridor with fixed route bus serve with service intervals no longer than 15 minutes during peak commute hours. The 2020 MTP/SCS forecasts an extra 109,500 jobs to be within a 30-minute drive of people's homes and an extra 17,500 jobs to be within a 30-minute transit trip from people's homes and would contribute in lowering the daily vehicle miles

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traveled for workers from 18 miles in 2016 to 16.1 miles in 2040. Overall, daily VMT per capita for the SACOG region is projected to decrease from 24.6 VMT per capita in 2016 to 23.3 VMT per capita in 2040 with implantation of the 2020 MTP/SCS.

Local

City of Davis Climate and Adaptation Plan

The City of Davis adopted the Davis Climate Action and Adaptation Plan (CAAP) in June 2010. It was prepared to achieve the GHG emissions reductions target adopted by the City in November 2008. The 2010 CAAP GHG emissions reduction targets are shown in Table 4.6-6, *City of Davis 2010 Climate Action and Adaptation Plan GHG Emissions Reduction Targets*, which also shows the state requirements. Overall, the 2010 CAAP established GHG emissions reduction targets for the City that were above the minimum State targets at the time.

TABLE 4.6-6 CITY OF DAVIS 2010 CLIMATE ACTION AND ADAPTATION PLAN GHG EMISSIONS REDUCTION TARGETS

Year	Target Range	
	State	City
2010	Year 2000 Levels	Year 1990 Levels
2012	N/A ^a	7% Below 1990 Levels
2015	N/A ^a	15% Below Year 1990 Levels
2020	Year 1990 Levels	28% Below Year 1990 Levels
2030	40% Below 1990 Levels	N/A ^b
2040	N/A ^c	80% Below Year 1990 Levels ^d
2050	80% Below Year 1990 Levels	Carbon Neutral ^c

Notes:

a. A statewide GHG emissions reduction target was not established for this year.

b. The CAAP was prepared prior to passage of SB 32 and a year 2030 GHG emissions reduction target was not included.

c. A year 2040 GHG emissions reduction target has not be established.

d. In March 2019, the City adopted the Resolution Declaring a Climate Emergency and Proposing Mobilization Efforts to Restore a Safe Climate which declared for achieving carbon neutrality by year 2040.

Source: Davis 2010

The 2010 CAAP identifies various objectives and actions across nine sectors that were to be implemented within the first five years after adoption in 2010 to achieve the 2015 target and to set the pathway for the City to meet the 2050 target. The nine sectors and their objectives for year 2015 are shown in Table 4.6-7, *City of Davis Climate 2010 Action and Adaptation Plan Sectors and Objectives*. Currently, the City is preparing the 2020-2040 CAAP, which is anticipated for adoption in year 2022. The update would align the CAAP with current State and local GHG regulatory requirements and targets. Additionally, the 2020-2040 CAAP would be prepared and processed in accordance with CEQA Guidelines Section 15183.5, which would permit for future project streamlining (Davis 2021).

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TABLE 4.6-7 CITY OF DAVIS 2010 CLIMATE ACTION AND ADAPTATION PLAN SECTORS AND OBJECTIVES

Sector	Objectives
Mobility	Objective 1: Reduce Davis per household daily vehicle miles traveled by 10 percent from 2010 levels.
	Objective 2: Increase overall efficiency of passenger vehicles operated by Davis residents by 5 percent (over new CAFE standards).
	Objective 3: Replace 1 percent of fuels used in passenger vehicles operated by Davis residents with locally sourced biofuels.
Energy	Objective 1: Reduce total energy use in Davis by 5 percent from 2010 levels.
	Objective 2: Produce 5 percent of the total electricity used in Davis from renewable on-site and/or local sources.
Land Use and Buildings	Objective 1: Achieve net zero energy use in all new buildings and homes.
	Objective 2: Achieve 41 percent reduction in GHG emissions in all new buildings and homes.
	Objective 3: Create vibrant neighborhoods where 100 percent of Davis residents can easily walk or bicycle to meet basic daily, non-work needs.
	Objective 4: Create vibrant centrally located shopping and entertainment centers, with a particular focus on maintaining downtown as the commercial and entertainment center of the City.
Consumption and Waste	Objective 1: Reduce solid waste generated by 10 percent.
	Objective 2: Recover 75 percent of all waste generated.
	Objective 3: Maximize efficiency of the waste collection system.
	Objective 4: Reduce water use by 10 percent over 2010 levels.
Food and Agriculture	Objective 1: Increase consumption of local food by 10 percent.
	Objective 2: Reduce consumption of carbon intensive food.
Community Engagement	Objective 1: Motivate all Davis residents and businesses to change their behavior in ways that reduce emissions.
Government Operations	Objective 1: Reduce GHG emissions from City operations by 41 percent below 2010 levels.
Advocacy	Objective 1: Identify five key legislative or regulatory climate issues that would assist the City in meeting its GHG reduction targets and devote adequate resources to positively influence outcomes.
Climate Change Preparedness	Objective 1: Adapt successfully to a changing climate.

Source: Davis 2010

4.6.1.3 City of Davis 2019 Climate Emergency Resolution

On March 5, 2019, the Davis City Council passed Resolution Declaring a Climate Emergency and Proposing Mobilization Efforts to Restore a Safe Climate. The resolution commits to accelerating the community's carbon neutrality goal from 2050 up to 2040 and implement other significant City actions to address climate change by 2030. The City and City Council will engage with the Natural Resources Commission and other commissions; community-based partner organizations and other regional agencies; and leverage the resources of the University of California, Davis to accelerate a robust update to the Davis CAAP and integration with the City's updated General Plan. The City also will also pursue efforts via the local community choice aggregator, Valley Clean Energy, to supply clean electricity that is 100% renewable and

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increasingly locally sourced for municipal, residential, commercial and business, and other non-residential uses.

4.6.1.4 EXISTING CONDITIONS

Table 4.6-8, *Downtown Davis Specific Plan Existing GHG Emissions Inventory*, summarizes existing emissions associated with the Specific Plan area. The existing land uses currently generate GHG emissions from natural gas use for energy, heating, and cooking; vehicle trips; and area sources such as landscaping equipment and consumer cleaning products. As shown in the table, the Specific Plan area generates a total of 68,965 MTCO₂e/yr of GHG emissions under existing conditions.

TABLE 4.6-8 DOWNTOWN DAVIS SPECIFIC PLAN AREA EXISTING GHG EMISSIONS INVENTORY

Sector	Annual GHG Emissions MTCO ₂ e Per Year	Percent of Total
Area	251	<1%
Energy – Natural Gas ^a	4,016	6%
Energy - Electricity	2,418	4%
Mobile ^b	59,537	86%
Solid Waste ^c	2,723	4%
Water and Wastewater ^d	21	<1%
Total	68,965	100%

Notes: Manual summation of values may not equal to the totals shown due to rounding; “<” represents a value greater than zero, but less than one.

a. Based on the historical CalEEMod energy rates, which are based on the 2005 Building Energy Efficiency Standards.

b. Based on year 2019 emissions data and vehicle trips and VMT provided by Fehr & Peers.

c. Based on CalEEMod default generation rates.

d. Emissions from this sector are based on total water demand of 54,000 gallons per day (gpd) and wastewater generation of 43,200 gpd (80 percent of total water demand).

Source: CalEEMod, Version 2020.4.0.

4.6.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant greenhouse gas emissions impact if it would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Yolo-Solano AQMD does not currently have adopted or interim GHG emissions significance thresholds. While the City of Davis has the adopted 2010 CAAP, it is not considered a qualified GHG reduction plan per CEQA Guidelines Section 15183.5. As noted previously, the City is in the process of updating the CAAP to address subsequent GHG legislation and targets introduced after its original adoption. For purposes of this analysis, the GHG emissions significance thresholds used are based on the current operation-phase GHG threshold of significance developed by the Sacramento Metro Air Quality Management District (SMAQMD), which is described below.

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- **Operation:** The SMAQMD has created a tiered approach in evaluating operation-related GHG emissions impacts. Per its CEQA Guide, a project may be evaluated for consistency with a qualified CAP. If a project is determined to be consistent with the qualified CAP, it is considered to result in a less than significant GHG emissions impact. However, if a project is not consistent with an applicable qualified CAP, or there is no existing applicable qualified CAP, a project may be evaluated against the GHG operational screening levels. The screening levels represent the size of development that would not result in generating operation emissions exceeding 1,100 MTCO₂e/yr. If a project does not exceed the screening levels or generate emissions less than or equal to 1,100 MTCO₂e/yr and implements the tier 1 GHG Best Management Practices (BMP), it is determined to result in a less than significant GHG emissions impact. The Tier 1 BMPs prohibit use of natural gas and require a project to be designed and constructed without natural gas infrastructure (BMP 1) and require a project to meet the current CALGreen Tier 2 electric vehicle ready standards (BMP 2). If a project exceeds 1,100 MTCO₂e/yr with the Tier 1 BMPs, it would be required to incorporate the Tier 2 BMPs, which consists of BMP 3. A project would meet BMP 3 requirements if it reduces its VMT by 15 percent for residential and/or worker compared to the existing average VMT per capita in the county. Additionally, if applicable, the retail component of a project must achieve a no net increase in GHG production.

4.6.3 IMPACT DISCUSSION

4.6.1.1 METHODOLOGY

This GHG emissions evaluation was prepared in accordance with the requirements of CEQA to determine if significant air quality impacts are likely to occur in conjunction with future development that would be accommodated by the proposed Downtown Davis Specific Plan. Yolo-Solano AQMD has published the Handbook for Assessing and Mitigating Air Quality Impacts (Handbook) that provides local governments with guidance for analyzing and mitigating air quality impacts and was used in this analysis where applicable. The Downtown Davis Specific Plan Area criteria air pollutant emissions inventory includes the following sectors:

- **Transportation.** Based on the trip generation and VMT data provided by Fehr and Peers, Inc. (see Appendix 4.13-1 of this Draft EIR). An average trip distance of 4.57 and 4.73 miles per trip are utilized for the existing and project buildout scenarios, respectively. Based on the estimated 85,253 average daily trips (ADT) generated under existing conditions and the 102,252 ADT generated under buildout conditions, approximately 389,697 vehicle miles per day are generated currently and 483,717 vehicle miles per day would be generated under buildout conditions under the proposed Downtown Davis Specific Plan.
- **Area Sources.** Area sources generated from use of consumer products and cleaning supplies are based on CalEEMod default emission rates and on the assumed building square footages. For fireplaces, it is assumed that new proposed multifamily residential dwelling units are either equipped with gas fireplaces as a conservative assumption or no fireplaces, based on Yolo-Solano AQMD Rule 2.40.
- **Energy.** GHG emissions from energy use (natural gas used for cooking and heating, and electricity) are based on the CalEEMod defaults for natural gas and electricity usage by residential and nonresidential land uses. New buildings are assumed to comply with the 2019 Building Energy Efficiency Standards.

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Existing buildings and residential units are assumed to comply with the 2005 Building Energy Efficiency Standards, as the available data and a conservative approach. The default CalEEMod energy rates, which are based on the 2019 Building Energy Efficiency Standards, are used for the proposed uses. For existing uses, the CalEEMod historical energy rates, which are based on the 2005 Building Energy Efficiency Standards, are used. Using the model's historical energy rates would result in a more conservative result as it pertains to measuring the net change in emissions. This is because energy standards prior to the 2005 Standards would likely result in higher energy use rates. While the total energy demand would be higher, it would result in a smaller net change compared to the 2005 Standards.

- **Water and Wastewater.** Emissions from this sector are based on total water demand of 54,000 gallons per day (gpd) and 145,000 gpd for existing and proposed conditions, respectively. In addition, wastewater is estimated at 80 percent of total water demand. Wastewater for the existing uses is 43,200 gpd and 116,000 gpd for the total proposed buildout conditions. See Section 4.14.1, Water, of the Draft EIR for further details regarding total water demand and wastewater.
- **Solid Waste.** Indirect emissions from solid waste generation are based on CalEEMod default generation rates.
- **Energy Carbon Intensity Factor.** For modeling purposes, it is assumed that Valley Clean Energy (VCE) provides 100 percent of the electricity demand for the plan area. Additionally, modeling is based on a CO₂e intensity factor of 190 pounds per megawatt hour (lbs/MWh) as provided by VCE and utilizes the CalEEMod default intensity factors of 0.033 lb/MWh for methane (CH₄) and 0.004 lb/MWh for nitrous oxide (N₂O).
- **Construction.** Project specific details are unknown for the future development projects that would be accommodated under the Downtown Davis Specific Plan. However, construction emissions are a one-time release and typically are not expected to generate a substantial amount of GHG emissions. In addition, climate change is a cumulative effect that occurs over a long period of time; therefore, amortizing construction emissions over a period of time would allow it to be considered in the context of long-term operation-phases emissions. For purposes of this analysis, while the timeline in which development would occur is unknown and would be speculative to determine how much emissions would occur in a given year, an estimate is provided because total project-related construction emissions would be amortized. The total project-related construction emissions are amortized over a 30-year period based on South Coast Air Quality Management District methodology (SCAQMD 2009). The SCAQMD methodology is used because the Yolo-Solano AQMD does not have its own GHG thresholds and the Sacramento Metro AQMD does not have a combined threshold for construction and operation emissions. Overall, construction emissions are modeled using CalEEMod and utilizes model defaults (e.g., construction schedule and equipment mix) based on the proposed new uses under the project.

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4.6.1.2 PLANS, PROGRAMS, AND POLICIES

Downtown Davis Specific Plan

The Downtown Davis Specific Plan contains the following implementation actions that would contribute reductions in GHG emissions in the Specific Plan Area:

Table 8D, Implementation Actions: Circulation (Bicycle, Pedestrian, Transit, Streetscape)

- **Action 1:** Implement a Layered Network Approach to Street Design with Defined Modal Priorities.
 - **Methodology/Step 1A:** Design the street network to make bicycling, walking, and using transit safe and comfortable for everyone.
 - **Methodology/Step 1B:** Design all streets to ensure that they are readily accessible to and usable by all users, especially individuals with disabilities.
 - **Methodology/Step 1C:** Design all streets as public spaces as well as corridors for multimodal movement.
 - **Methodology/Step 1D:** Design all streets to maximize opportunities to support natural ecosystems and urban greenery; protecting existing trees, planting new trees, and incorporating shade strategies wherever feasible.
 - **Methodology/Step 1E:** Design the street network to accommodate the movement and transfer of goods to support the basic functions and operations of downtown businesses.
 - **Methodology/Step 1F:** Design all streets with safety of all users as a top priority and to minimize multimodal conflicts.
 - **Methodology/Step 1H:** Adopt a fair-share transportation impact fee for new development to raise funds for improving all modes of transportation.
- **Action 2:** Implement a Pedestrian Net That Enhances Walkability in Downtown.
 - **Methodology/Step 2B:** Continue to upgrade existing pedestrian crossings to reduce pedestrian exposure to competing modes and increase pedestrian visibility to conflict zones.
 - **Methodology/Step 2C:** Construct wide pedestrian through-zones (10 to 15 feet) in locations with high pedestrian volumes.
 - **Methodology/Step 2E:** Eliminate existing and minimize future driveways and curb cuts along major pedestrian corridors, to the extent feasible.
- **Action 3:** Implement a “Low-Stress” Bicycle Network in Downtown.
 - **Methodology/Step 3A:** Continue to improve the network of high-quality, well-connected bicycle facilities serving the Downtown.
 - **Methodology/Step 3B:** Continue to upgrade existing bicycle crossings to reduce bicyclist exposure to competing travel modes and increase bicyclist visibility in conflict zones.
 - **Methodology/Step 3C:** Eliminate existing and minimize future driveways and curb cuts along major bicycle corridors, to the extent feasible.
 - **Methodology/Step 3D:** Monitor bicycle parking demand and increase short- and long-term bicycle parking supply in the public realm, as warranted.
 - **Methodology/Step 3E:** Continue to support the operations and expansion of bicycle share programs and related infrastructure.

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- **Methodology/Step 3F:** Update the General Plan Circulation Element to include strategies to connect the Plan Area priority bicycle network with neighboring districts to establish a continuous bicycle network with safe and efficient connections to destinations within the Plan Area and throughout the City.
- **Methodology/Step 3G:** Commit a minimum amount of funding towards bicycle facility improvements in the Plan Area.
- **Methodology/Step 3H:** Prioritize and phase bicycle network improvements in coordination with other Plan Area improvements.
- **Action 4:** Implement Transit Network Improvements in Downtown.
 - **Methodology/Step 4A:** Review and expand local transit services, as warranted by demand.
 - **Methodology/Step 4B:** Implement transit network improvements along identified transit priority corridors.
 - **Methodology/Step 4C:** Coordinate with Unitrans and YoloBus to explore potential transit network design strategies that would improve route directness, travel times, and service quality for bus routes serving the Plan Area.
 - **Methodology/Step 4D:** Enhance transit stop amenities to include benches, shelters, and real-time arrival information.
 - **Methodology/Step 4E:** Implement multimodal access improvements identified in the ongoing Davis Train Depot Access Study.
- **Action 5:** Implement Vehicular Network Improvements in Downtown.
 - **Methodology/Step 5F:** Utilize vehicle miles traveled per capita (VMT) as the primary metric for evaluating transportation impacts.
 - **Methodology/Step 5G:** Partner with UC Davis to explore TDM strategies that would reduce peak hour vehicle trips through Downtown.

Table 8E, Implementation Actions: Parking and Transportation Demand Management

- **Action 3:** Regulate Private Development.
 - **Methodology/Step 3A:** Remove minimum parking requirements.
 - **Methodology/Step 3B:** Set maximum parking requirements.
 - **Methodology/Step 3C:** Require unbundling of parking costs from the cost of other goods and services.
 - **Methodology/Step 3D:** Require Transportation Demand Management (TDM) plans and set performance standards for reducing motor vehicle trips from new developments.
 - **Methodology/Step 3E:** Require provision of spaces for carshare vehicles and carpools when parking is provided.
 - **Methodology/Step 3F:** Require parking cash-out programs.
 - **Methodology/Step 3G:** Require provision of free transit passes to residents and employees.
 - **Methodology/Step 3H:** Require membership in Transportation Management Association.
 - **Methodology/Step 3I:** Monitor ongoing efforts and results at the Plan Area level and the development-specific level.
- **Action 4:** Improve Transportation Choices.

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- **Methodology/Step 4A:** Strengthen the existing countywide Transportation Management Association serving Davis.
- **Methodology/Step 4B:** Establish deep-discount group transit pass program.
- **Methodology/Step 4C:** Review and expand local transit networks.
- **Methodology/Step 4D:** Continue improving bicycling facilities and programs.

Table 8F, Implementation Actions: Infrastructure

- **Action 1:** Explore Green Infrastructure Strategies in Downtown Streetscape Improvements.
 - **Methodology/Step 1A:** Include Green Infrastructure (GI) where possible, as part of public realm and streetscape improvements.
 - **Methodology/Step 1B:** Coordinate GI improvements with other planned improvements, primarily those related to transportation, for maximum efficacy.
- **Action 3:** Evaluate the Viability of a District-Scale Water Reuse System in Downtown.
 - **Methodology/Step 3A:** Explore the establishment of a water reuse district in the Heart of Downtown district, coordinating efforts with the proposed improvements to the E Street Plaza and its transformation to Davis Square.
 - **Methodology/Step 3B:** Consider private-public partnership utility districts or other negotiated cost-share options to help defray costs to developers.
 - **Methodology/Step 3C:** Revise and update the Capital Improvement Plan (CIP) and MPFP (Major Projects Financing Plan) to incorporate funding, timing, phasing, and construction of these facilities consistent with the Specific Plan.
- **Action 4:** Set Downtown Water Use Target.
 - **Methodology/Step 4A:** Evaluate the three Water Reuse Scenarios developed in Section 7.3 of Chapter Seven: Infrastructure to set targets for Downtown.

Table 8H, Implementation Actions: Sustainability

- **Action 1:** Electrify Downtown Buildings by 2040, With Exceptions as Deemed Necessary
 - **Methodology/Step 1B:** Transition all restaurants, commercial, office and residential uses to electric space and water heating, appliances, etc., including heat pumps for new or replacement boilers and other energy efficient technology.
 - **Methodology/Step 1C:** Incentivize new and emerging technologies in building design and energy efficiency for new and retrofit projects.
 - **Methodology/Step 1D:** Require net zero energy for new and retrofit construction, beyond current Title 24 and CALGreen requirements.
 - **Methodology/Step 1E:** Implement energy production (e.g. solar) requirements on all buildings (residential and non-residential/commercial) where not currently required.
 - **Methodology/Step 1F:** Explore collaboration with UC Davis' plans for district heating system.
- **Action 2:** Create a Downtown that is Microgrid and Storage-Ready.
 - **Methodology/Step 2A:** Coordinate microgrid feasibility and planning with local utilities.
 - **Methodology/Step 2B:** Consider electric vehicle (EV) fleet as part of electric load demand management.

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- **Methodology/Step 2C:** Embed microgrid and storage requirements in zoning, building codes.
- **Action 3:** Create a Carbon Mitigation Fund.
 - **Methodology/Step 3A:** Municipal fund: Cost savings from energy efficiency and greenhouse gas (GHG) savings go into fund to be used to spur further investments in reducing energy use.
 - **Methodology/Step 3B:** Residential/commercial fund: Implement developer impact fees (See Utility Rate Advisory Commission (URAC) resolution for recommended language on districtwide mitigation fund).
- **Action 4:** Aim to Electrify All Fuel-Dependent Downtown Transportation by 2040.
 - **Methodology/Step 4A:** Plan for electric vehicle (EV) charging for all vehicles (personal, shared, commercial, bus/ shuttle), and ensure electrical infrastructure to handle loads.
 - **Methodology/Step 4B:** Aim to fully electrify City of Davis fleet and Unitrans fleet.
 - **Methodology/Step 4C:** Embed EV infrastructure requirements in zoning, building codes.
- **Action 5:** Set Target Reduction Figure for Water Conservation and Graywater Reuse
 - **Methodology/Step 5A:** Graywater plan: Integrated water collection and reuse through descending uses and support landscaped greenery (e.g. shade trees and interstitial habitat). Plan for graywater integration with landscaping, especially for multi-story buildings (look to San Francisco ordinances).
 - **Methodology/Step 5B:** Consider requiring Net Zero Water in Downtown: capture and reuse all water, e.g., dishwashing systems, appliance and mechanical system recapture, stormwater, etc.
 - **Methodology/Step 5C:** Embed graywater ordinance and requirements for all downtown buildings in zoning code.
- **Action 6:** Implement Zero Waste in Downtown by 2040.
 - **Methodology/Step 6A:** Continue to require a minimum of 65 percent waste diversion for construction and demolition.
 - **Methodology/Step 6B:** Pursue additional resources for education and enforcement on reduction of office/residential/ commercial waste as defined in the Davis Municipal Code (DMC 32.01.065).
 - **Methodology/Step 6C:** Explore emerging opportunities and technologies in waste management.
 - **Methodology/Step 6D:** Continue to encourage partnerships between the City and commercial businesses on management of waste receptacles in high traffic/high use areas.
 - **Methodology/Step 6E:** Provide adequate space for businesses to properly sort their waste.

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4.6.1.3 IMPACT ANALYSIS

GHG-1	Implementation of the Downtown Davis Specific Plan could generate a net increase in GHG emissions that would have a significant impact on the environment.

Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough greenhouse gas emissions on its own to significantly influence global climate change; hence, the issue of global climate change is by definition a cumulative environmental impact.

Buildout of the Downtown Davis Specific Plan is not linked to a specific development timeframe, but is assumed over a 20-year project horizon. Implementation of the proposed project by the horizon year of 2040 would result in a net increase of up to 1,000 new residential units and 600,000 square feet of new non-residential development, resulting in an increase in 2,160 residents and 1,501 employees in the City. Additionally, under year 2040 full buildout conditions, the proposed project would generate 102,252 ADT and 483,717 VMT per day, which represent a net increase of 16,999 ADT and 94,020 VMT per day over baseline year 2019 existing conditions. Buildout of the proposed project would generate direct and indirect GHG emissions from transportation, energy (e.g., natural gas and electricity), area sources (e.g., aerosols and landscaping equipment), water demand and wastewater generation, and solid waste generation. In addition, construction activities associated with buildout of the proposed project would also generate GHG emissions from operation of off-road equipment and from on-road vehicles related to construction workers and vendors.

As discussed in section 4.2 (Impact AQ-2), the Specific Plan goals include creating compact development that incorporates sustainable practices and infrastructure and creating a safe, connected multimodal network. Compact development would support more self-sustained communities where people live close to employment and entertainment opportunities. Guiding policies under this goal include enhancing Downtown's character with compact and infill development (Guiding Policy 2.1), incentivizing private developers to include energy efficient systems in new development and renovation and expansion projects that exceed City requirements (Guiding Policy 2.3), and prioritizing alternate transportation and encouraging a car-free lifestyle (Guiding Policy 2.4). Sustainability implementation actions include transitioning all restaurants, commercial, and residential uses to electric space and water heating and appliances; requiring net zero energy for new and retrofit construction beyond current Title 24 and CALGreen requirements; and implementing energy production requirements on all buildings (residential and non-residential/commercial) where not currently required. Other implementation actions include embedding electrification and microgrid and energy storage requirements in zoning and building codes. The Downtown Davis Specific Plan also includes implementation actions focused on implementing a graywater plan and requiring Net Zero Water in Downtown (See Tables 8C through 8H in the Downtown Davis Specific Plan for the complete list of the proposed implementation actions).

Guiding policies for the multimodal goal include making Downtown a place where most daily needs can be met without a car, and walking, cycling, and transit are the preferred modes of travel (Guiding Policy 6.1), improving transit service, electric shuttles, and similar modes (Guiding Policy 6.2), establishing a clear

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hierarchy of streets that balance vehicular traffic with the needs of pedestrians and cyclists (Guiding Policy 6.4), and eliminating minimum parking requirements for new developments in addition to expansions and renovations of existing development (Guiding Policy 6.9). Implementation actions for this goal include requiring transportation demand management plans and setting standards for reducing motor vehicle trips from new developments, reviewing and expanding local transit services where warranted by demand, implementing transit network improvements along identified transit priority corridors, designing the street network to make bicycling, walking, and using transit safe and comfortable for everyone, constructing wide pedestrian through-zones (10 to 15 feet) in locations with high pedestrian volumes, and continuing to improve the network of high-quality, well connected bicycle facilities serving the downtown.

Overall, the sustainability goal would contribute to reductions in natural gas use and increased energy efficiency and renewable energy production. In addition, both goals would contribute to reductions in vehicle trips and VMT per service population compared to a no-project buildout scenario. The operation-related GHG emissions associated with implementation of the Downtown Davis Specific Plan are shown in Table 4.6-9, *Downtown Davis Specific Plan GHG Emissions*.

TABLE 4.6-9 DOWNTOWN DAVIS SPECIFIC PLAN GHG EMISSIONS

Sector	GHG Emissions (MTCO ₂ e per Year)			
	Existing	Specific Plan	Percent by Sector Specific Plan	Change from Existing
Area	251	699	1%	448
Energy – Natural Gas ^{a,b}	4,016	5,310	8%	1,294
Energy – Electricity ^{a,b}	2,418	3,330	5%	912
Mobile ^{c,d}	59,537	51,313	80%	(8,224)
Water/Wastewater	21	49	<1%	28
Solid Waste Disposal	2,723	3,404	5%	681
Amortized Construction ^e	N/A	99	<1%	99
Total All Sectors	68,965	64,203	100%	(4,761)
Unadjusted Bright-Line Threshold				1,100
Project Natural Gas Emissions				1,294
Adjusted Bright-Line Threshold				(194)
Exceeds Threshold?				No

Notes: Manual summation of values may not equal to the totals shown due to rounding; N/A: not applicable; Numbers in parenthesis “()” note a negative value; “<” represents a value greater than zero, but less than one.

a. The CalEEMod historical energy rates, which are based on the 2005 Building Energy Efficiency Standards, are utilized for the existing uses.

b. New buildings are assumed to comply with the 2019 Building Energy Efficiency Standards.

c. Existing based on year 2019 emissions data and vehicle trips and VMT provided by Fehr & Peers.

d. Specific Plan Based on year 2040 emissions data and vehicle trips and VMT provided by Fehr & Peers.

e. Total construction emissions of 2,974 MTCO₂e amortized over 30 years based on South Coast Air Quality Management District methodology (SCAQMD 2009). Construction emission are included in the emissions inventory to account for the one-time GHG emissions from construction activities associated with implementation of the proposed project.

Source: CalEEMod, Version 2020.4.0.

As shown in the table, compared to the existing uses under baseline year 2019 conditions, the proposed project under year 2040 buildout conditions would result an overall net decrease in GHG emissions of 4,761 MTCO₂e/yr. The net decrease in mobile-source emissions would be the primary factor for the

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overall net decrease in emissions. As stated, the project full buildout year 2040 conditions would result in a net increase of 16,999 ADT and 94,020 VMT per day over baseline year 2019 existing conditions. However, these increases would be offset by the anticipated decrease in vehicle emission rates in year 2040 compared to baseline year 2019 conditions. In general, vehicle emission rates would decrease over time due to regulations requiring cleaner and more efficient cars and vehicle turnover of older more polluting vehicles to cleaner vehicles.

To determine the level of impact, the net change from existing emissions inventory was compared to the adjusted bright-line threshold of 194 MTCO₂e/yr. The adjusted significance threshold is determined by subtracting the net increase in 1,294 MTCO₂e/yr of GHG emissions generated by natural gas use from the unadjusted bright-line threshold of 1,100 MTCO₂e/yr. This approach taken is based on the SMAQMD methodology used in determining the operation-phase GHG emissions significance threshold criteria. Per the SMAQMD methodology, a project may be deemed less than significant for operation-related GHG emissions impacts if it does not exceed the screening levels or generate emissions less than or equal to 1,100 MTCO₂e/yr, and implements the Tier 1 GHG Best Management Practices (BMP). Thus, the 1,100 MTCO₂e/yr threshold is predicated on application of BMP 1, which prohibits use of natural gas. Because the project emissions shown in Table 4.6-9 includes GHG emissions from natural gas uses, the adjusted significance threshold is used to account for this fact. Thus, the adjusted significance threshold reflects what the numeric threshold would be if it is not predicated on inclusion of BMP 1.

Overall, as shown in Table 4.6-9, the net decrease in GHG emissions of 4,761 MTCO₂e/yr from implementation of the proposed project would be below the adjusted significance threshold of 194 MTCO₂e/yr. Additionally, because the results shown in Table 4.6-9 are based on the assumption that buildings would still use natural gas, as the City implements the actions related to decommissioning natural gas use over time, overall energy sector emissions would be further reduced. However, due to the uncertainty of the Specific Plan's sustainability actions being implemented to the extent shown in the model, the project may generate a net increase in GHG emissions, creating a significant impact on the environment. Therefore, to be conservative in the analysis implementation of the Downtown Davis Specific Plan may result in potentially significant impacts.

Significance Without Mitigation: Significant and unavoidable.

GHG-2	Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Applicable plans adopted for the purpose of reducing GHG emissions include CARB's Scoping Plan, SACOG's 2020 MTP/SCS, and the City's CAAP. A consistency analysis with these plans is presented below.

CARB Scoping Plan

The CARB Scoping Plan is applicable to state agencies, but is not directly applicable to cities/counties and individual projects (i.e., the Scoping Plan does not require the City to adopt policies, programs, or regulations to reduce GHG emissions). However, new regulations adopted by the state agencies outlined in the Scoping Plan result in GHG emissions reductions at the local level. As a result, local jurisdictions

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benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other statewide actions that affect a local jurisdiction's emissions inventory from the top down. Statewide strategies to reduce GHG emissions include the LCFS and changes in the corporate average fuel economy standards (e.g., Pavley I and Pavley California Advanced Clean Cars program).

Development projects accommodated under the Specific Plan would be required to adhere to the programs and regulations identified by the Scoping Plan and implemented by state, regional, and local agencies to achieve the statewide GHG reduction goals of AB 32. These future individual development projects would be required to comply with these statewide GHG emissions reduction measures. For example, new buildings under the Specific Plan would be required to meet the current CALGreen and Building Energy Efficiency standards. Furthermore, because the City of Davis has adopted and mandated the Tier 1 CALGreen residential and non-residential voluntary measures, new developments would also be mandated to meet these voluntary measures. Project GHG emissions shown in Table 4.6-9 include reductions associated with statewide strategies that have been adopted since AB 32. Therefore, the Specific Plan would generate GHG emissions consistent with the reduction goals of AB 32, and impacts are considered less than significant.

Significance Without Mitigation: Less than significant.

SACOG MTP/SCS

The MTP/SCS does not require that local general plans, specific plans, or zoning be consistent with the RTP/SCS, but provides incentives for consistency to governments and developers. The Specific Plan would result in a net increase in retail, commercial, office, and institutional space and 1,000 housing units, which would increase population and employment opportunities. As discussed in section 4.11 of this DEIR, the overall jobs-housing ratio for the City without the Specific Plan is projected at 0.70 jobs per housing unit for buildout year 2036, which is considered jobs poor. While this ratio is below the recommended range of 1.5 to 1.7, the City would trend towards reaching the recommended range as the existing jobs-housing ratio is 0.65 for the City as a whole. In general, an improved jobs-housing balance for the City overall could contribute in reducing the average distance traveled between where people live and work and therefore reduce passenger VMT. As discussed in section 4.11, implementation of the Downtown Davis Specific Plan would result in 1,000 new dwelling units and 1,501 new jobs, which would increase the jobs-housing ratio to a slightly more favorable ratio of 1.31 jobs per unit. Furthermore, the Specific Plan is within a designated SACOG HFTA and transit priority area. Thus, the development of new housing and creation of new jobs would be consistent with the 2020 MTP/SCS in concentrating new housing and new jobs in these designated areas and creating compact communities. As shown in Table 4.6-10, *Downtown Davis Specific Plan Operation-Related VMT Per Service Population*, while implementation of the Specific Plan would result in an increase in daily VMT, VMT per service population (VMT/SP) would decrease from 96.6 VMT/SP down to 62.4 VMT/SP compared to existing conditions. Also, as discussed in section 4.13, the project-generated VMT per service population would measure more than 15 percent below the average VMT per service population generated by the City of Davis, by the City of Davis with UC Davis, and by the SACOG region and would not exceed the VMT thresholds. Therefore, the Specific Plan would not interfere with SACOG's ability to implement the regional strategies outlined in the MTP/SCS, and impacts are considered less than significant.

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TABLE 4.6-10 SPECIFIC PLAN OPERATION-RELATED VMT PER SERVICE POPULATION

Scenario	Daily VMT	Service Population	VMT Per Service Population
Existing	389,697	4,034 ^a	96.6
Existing Plus Project	480,369	7,695 ^b	62.4
Change from Existing	90,672	3,661	(34.2)

Note: Numbers in parenthesis “()” note a negative value.
a. Consists of 1,083 residents and 2,951 employees.
b. Consists of 3,243 residents and 4,452 employees.
Source: Fehr & Peers 2020.

Significance Without Mitigation: Less than significant.

City of Davis 2010 CAAP

Table 4.6-11, *Project Consistency With the City of Davis 2010 Climate Action and Adaptation Plan*, evaluates consistency of the Downtown Davis Specific Plan to the 2010 CAAP. Specifically, the Specific Plan is compared to the objectives included in the CAAP.

TABLE 4.6-11 PROJECT CONSISTENCY WITH THE CITY OF DAVIS 2010 CLIMATE ACTION AND ADAPTATION PLAN

Objectives	Project Consistency
Mobility	
Objective 1: Reduce Davis per household daily vehicle miles traveled by 10 percent from 2010 levels.	Consistent: As stated, the Downtown Davis Specific Plan goals include creating compact development and creating a safe, connected multimodal network. Compact development would support more self-sustained communities where people live close to employment, amenities, and entertainment opportunities. Guiding policies under this goal include enhancing Downtown’s character with compact and infill development (Guiding Policy 2.1) and prioritizing alternate transportation and encouraging a car-free lifestyle (Guiding Policy 2.4). Additional guiding policies for the multimodal goal include making Downtown a place where most daily needs can be met without a car, and walking, cycling, and transit are the preferred modes of travel (Guiding Policy 6.1), improving transit service, electric shuttles, and similar modes (Guiding Policy 6.2), establishing a clear hierarchy of streets that balance vehicular traffic with the needs of pedestrians and cyclists (Guiding Policy 6.4).
Objective 2: Increase overall efficiency of passenger vehicles operated by Davis residents by 5 percent (over new CAFE standards).	Consistent: The consistency discussion for the Mobility Objective 1 above also applies, as shown in Table 4.6-10, while implementation of the Specific Plan would result in an increase in daily VMT, VMT per service population would decrease from 96.6 VMT/SP down to 62.4 VMT/SP compared to existing conditions. Also, as discussed in section 4.13, the project-generated VMT per service population would measure more than 15 percent below the average VMT per service population generated by the City of Davis, by the City of Davis with UC Davis, and by the SACOG region and would not exceed the VMT thresholds. In addition, Action 4 under Table 8H of the proposed Specific Plan consists of planning for EV charging for all vehicles and the electrical infrastructure to accommodate the load, aiming to fully electrify City of Davis fleet and Unitrans fleet, and embedding EV infrastructure requirements in zoning and building codes. Furthermore, Action 3 under Table 8E of the proposed Specific Plan would require provision of spaces for carshare vehicles and carpools when parking is provided.
Objective 3: Replace 1 percent of fuels used in passenger vehicles operated by Davis residents with locally sourced biofuels.	Not Applicable: This objective is outside the scope of the proposed project.

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TABLE 4.6-11 PROJECT CONSISTENCY WITH THE CITY OF DAVIS 2010 CLIMATE ACTION AND ADAPTATION PLAN

Objectives	Project Consistency
Energy	
Objective 1: Reduce total energy use in Davis by 5 percent from 2010 levels.	Consistent: Action 1 under Implementation Action Table 8H of the proposed Specific Plan consists of transitioning all restaurants, commercial, office, and residential uses to electric space and water heating, incentivizing new and emerging technologies in building design and energy efficiency for new and retrofit projects, and requiring net zero energy for new and retrofit construction beyond Title 24 and CALGreen requirements.
Objective 2: Produce 5 percent of the total electricity used in Davis from renewable on-site and/or local sources.	Consistent: Action 1 under Implementation Action Table 8H of the proposed Specific Plan consists of implementing energy production requirements on all buildings (residential and non-residential) where not currently required. Additionally, the 2019 Building Energy Efficiency Standards require installation of solar photovoltaic systems for single-family homes and low-rise multifamily buildings (three stories or less). The proposed 2022 Building Energy Efficiency Standards would extend this requirement to some non-residential uses.
Land Use and Buildings	
Objective 1: Achieve net zero energy use in all new buildings and homes.	Consistent: See the Energy Objective 1 discussion.
Objective 2: Achieve 41 percent reduction in GHG emissions in all new buildings and homes.	Consistent: See the Energy Objective 1 and Objective 2 discussions.
Objective 3: Create vibrant neighborhoods where 100 percent of Davis residents can easily walk or bicycle to meet basic daily, non-work needs.	Consistent: As stated, the Specific Plan goals include creating compact development that incorporates sustainable practices and infrastructure and creating a safe, connected multimodal network. Compact development would support more self-sustained communities where people live close to employment and entertainment opportunities. Guiding policies under this goal include enhancing Downtown's character with compact and infill development (Guiding Policy 2.1). Additionally, Guiding Policies for the multimodal goal include making Downtown a place where most daily needs can be met without a car, and walking, cycling, and transit are the preferred modes of travel (Guiding Policy 6.1), establishing a clear hierarchy of streets that balance vehicular traffic with the needs of pedestrians and cyclists (Guiding Policy 6.4).
Objective 4: Create vibrant centrally located shopping and entertainment centers, with a particular focus on maintaining downtown as the commercial and entertainment center of the City.	Consistent: The proposed project is a specific plan for the Downtown area with a focus on sustainable compact development.
Consumption and Waste	
Objective 1: Reduce solid waste generated by 10 percent.	
Objective 2: Recover 75 percent of all waste generated.	Consistent: Action 6 under Implementation Action Table 8H of the proposed Specific Plan sets a goal of zero waste in Downtown by 2040.
Objective 3: Maximize efficiency of the waste collection system.	
Objective 4: Reduce water use by 10 percent over 2010 levels.	Consistent: Action 5 under Implementation Action Table 8H of the proposed Specific Plan focuses on implementing a graywater integration plan and considers setting a Net Zero Water standard in Downtown. In addition, the proposed project also includes Action 3 and Action 4 of Implementation Action Table 8F which calls for exploring the establishment of a water reuse district in the Heart of Downtown district and setting a Downtown water use target.
Food and Agriculture	

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TABLE 4.6-11 PROJECT CONSISTENCY WITH THE CITY OF DAVIS 2010 CLIMATE ACTION AND ADAPTATION PLAN

Objectives	Project Consistency
Objective 1: Increase consumption of local food by 10 percent. Objective 2: Reduce consumption of carbon intensive food.	Not Applicable: These objectives are outside the scope of the proposed project.
Community Engagement	
Objective 1: Motivate all Davis residents and businesses to change their behavior in ways that reduce emissions.	Not Applicable: This objective is outside the scope of the proposed project.
Government Operations	
Objective 1: Reduce GHG emissions from City operations by 41 percent below 2010 levels (this puts the City on track to meet the minimum 2020 target 5 years early).	Consistent: Action 4 under Implementation Action Table 8H of the proposed Specific Plan aims to fully electrify City of Davis fleet and Unitrans fleet.
Advocacy	
Objective 1: Identify five key legislative or regulatory climate issues that would assist the City in meeting its GHG reduction targets and devote adequate resources to positively influence outcomes.	Not Applicable: This objective is outside the scope of the proposed project.
Climate Change Preparedness	
Objective 1: Adapt successfully to a changing climate.	Consistent: As discussed, the proposed project focuses on creating sustainable compact communities which would support more self-sustained communities where people live close to employment, amenities, and entertainment opportunities. As discussed in the consistency discussions for the other objectives and under Impact GHG-1, the proposed project includes various actions that would promote active [transportation?] and transit use over single-occupancy vehicles, transition to cleaner and more renewable energy, reduce energy demand, and implement graywater use.

Source: Davis 2010

As shown in the table, the Specific Plan would be generally consistent with the various objectives across the nine sectors. Therefore, implementation of the Downtown Davis Specific Plan would not be inconsistent or interfere with implementation of the City's 2010 CAAP and impacts are considered less than significant.

Significance Without Mitigation: Less than significant.

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4.6.4 CUMULATIVE IMPACTS

GHG-3	Implementation of the Downtown Davis Specific Plan could result in cumulatively considerable GHG emissions impacts.

Project-related GHG emissions are not confined to a particular air basin but are dispersed worldwide. Therefore, Impact GHG-1 does not reflect project-specific impacts, but the proposed project's contribution to a cumulative impact. If implemented as proposed the project could result in a reduction in GHG emissions over time. As a cumulative condition, this is the preferred outcome as it meets the state goals for GHG reduction. However, as proposed there are GHG reduction measures that may not be feasible to implement, or that would be implemented over a longer time such as removal of natural gas in restaurants. If the GHG reduction measures are delayed, or determined to be impractical for the City of Davis, projects could result in short-term increases in GHG emissions while the longer-term reduction measures are implemented. Therefore, project-related GHG emissions and their contribution to global climate change are cumulatively considerable, and GHG emissions impacts would significant and unavoidable.

Significance Without Mitigation: Significant and unavoidable.

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HAZARDS AND HAZARDOUS MATERIALS

4.7 HAZARDS AND HAZARDOUS MATERIALS

This chapter describes the regulatory framework and existing conditions in the Specific Plan Area related to hazards and hazardous materials, and evaluates the potential environmental consequences of future development that could occur by adopting and implementing the proposed project that are related to the release of hazardous materials into the environment.

The term “hazardous material” is defined in different ways by different regulatory programs. For purposes of this environmental document, the definition of “hazardous material” is the same as that outlined in the California Health and Safety Code, Section 25501. Hazardous materials that, because of their quantity, concentration, or physical or chemical characteristics, pose a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the unified program agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

“Hazardous waste” is a subset of hazardous materials, and the definition is essentially the same as that in the California Health and Safety Code, Section 25117, and in the California Code of Regulations, Title 22, Section 66261.2. Hazardous wastes are those that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Hazardous materials can be categorized as hazardous nonradioactive chemical materials, radioactive materials, and biohazardous materials (infectious agents such as microorganisms, bacteria, molds, parasites, viruses, and medical waste).

4.7.1 ENVIRONMENTAL SETTING

4.7.1.1 REGULATORY FRAMEWORK

Federal Regulations

Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984

Federal hazardous waste laws are generally promulgated under the Resource Conservation and Recovery Act of 1976 (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984. These laws provide for the “cradle to grave” regulation of hazardous wastes. Any business, institution, or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed.

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Emergency Planning Community Right-to-Know Act

The Emergency Planning Community Right-to-Know Act (EPCRA), also known as Title III of the Superfund Amendments and Reauthorization Act, was enacted in October 1986. This law requires any infrastructure at the State and local levels to plan for chemical emergencies. Reported information is then made publicly available so that interested parties may become informed about potentially dangerous chemicals in their communities. EPCRA Sections 301 through 312 are administered by United States Environmental Protection Agency's (EPA) Office of Emergency Management. The EPA's Office of Information Analysis and Access implements the EPCRA Section 313 program. In California, Superfund Amendments and Reauthorization Act Title III is implemented through California Accidental Release Prevention program. The State of California has delegated local oversight authority of the California Accidental Release Prevention program to the Yolo County.

Hazardous Materials Transportation Act

The United States Department of Transportation regulates hazardous materials transportation under Title 49 of the Code of Federal Regulations (CFR). The state agencies that have primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol and the California Department of Transportation. The California State Fire Marshal's Office has oversight authority for hazardous materials liquid pipelines. The California Public Utilities Commission has oversight authority for natural gas pipelines in California. These agencies also govern permitting for hazardous materials transportation.

Federal Response Plan

The Federal Response Plan of 1999 is a signed agreement among 27 federal departments and agencies and other resource providers, including the American Red Cross, that: 1) provides the mechanism for coordinating delivery of federal assistance and resources to augment efforts of State and local governments overwhelmed by a major disaster or emergency; 2) supports implementation of the Robert T. Stafford Disaster Relief and Emergency Act, as well as individual agency statutory authorities; and 3) supplements other federal emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an actual event requiring federal assistance under a Presidential declaration of a major disaster or emergency. The Federal Response Plan is part of the National Response Framework, which was most recently updated in October 2019.

Robert T. Stafford Disaster Relief and Emergency Assistance Act

The Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (Stafford Act) authorizes the federal government to provide assistance in emergencies and disasters when State and local capabilities are exceeded. The Stafford Act constitutes statutory authority for most federal disaster response activities, especially as they pertain to the federal Emergency Management Agency and its programs.

HAZARDS AND HAZARDOUS MATERIALS

National Response Framework

The 2019 National Response Framework, published by the Department of Homeland Security, is a guide to how the nation responds to all types of disasters and emergencies. The Framework describes specific authorities and best practices for managing incidents that range from serious local to large-scale terrorist attacks or catastrophic natural disasters. In addition, the Framework describes the principles, roles, and responsibilities, and coordinating structures for responding to an incident, and further describes how response efforts integrate with those of the other mission areas.

Occupational Safety and Health Administration

The federal Occupational Safety and Health Act of 1970 authorizes each state (including California) to establish their own safety and health programs with the United States Department of Labor, Occupational Safety and Health Administration's (OSHA) approval. The California Department of Industrial Relations regulates implementation of worker health and safety in California.

OSHA Regulation 29 CFR 1926.62 regulates the demolition, renovation, or construction of buildings involving lead materials. Federal, state, and local requirements also govern the removal of asbestos or suspected asbestos-containing materials (ACMs), including the demolition of structures where asbestos is present. All friable (crushable by hand) ACMs, or non-friable ACMs subject to damage, must be abated prior to demolition following all applicable regulations.

State Regulations

Cal OSHA

California OSHA enforcement units conduct on-site evaluations and issue notices of violation to enforce necessary improvements to health and safety practices. California standards for workers dealing with hazardous materials are contained in Title 8 of the California Code of Regulations and include practices for all industries (General Industrial Safety Orders), and specific practices for construction and other industries. Workers at hazardous waste sites (or working with hazardous wastes as might be encountered during excavation of contaminated soil) must receive specialized training and medical supervision according to the Hazardous Waste Operations and Emergency Response regulations.

California Building Code

The State of California provides a minimum standard for building design through the California Building Code (CBC), which is located in Part 2 of Title 24 of the California Code of Regulations. The CBC is based on the 2015 International Building Code, but has been modified for California conditions. The CBC is updated every three years, and the current (2019) CBC was published July 1, 2019, with an effective date of January 1, 2020. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. Commercial and residential buildings are plan-checked by local city and county building officials for compliance with the typical fire safety requirements of the CBC, including the installation of sprinklers in all high-rise buildings; the establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildlife hazard areas.

HAZARDS AND HAZARDOUS MATERIALS

California Fire Code

The California Fire Code (CFC) incorporates, by adoption, the International Fire Code of the International Code Council, with California amendments. This is the official Fire Code for the State and all political subdivisions. It is located in Part 9 of Title 24 of the California Code of Regulations. The CFC is revised and published approximately every three years by the California Building Standards Commission, and the current CFC went into effect January 1, 2020.

California Governor's Office of Emergency Services

The California Governor's Office of Emergency Services (Cal OES) began as the State War Council in 1943. With an increasing emphasis on emergency management, it officially became Cal OES in 1970. The California Emergency Management Agency was established as part of the Governor's Office on January 1, 2009—created by Assembly Bill 38 (Nava), which merged the duties, powers, purposes, and responsibilities of the former Governor's Office of Emergency Services with those of the Governor's Office of Homeland Security. The California Emergency Management Agency was responsible for the coordination of overall State agency response to major disasters in support of local government. The agency was also responsible for assuring the State's readiness to respond to and recover from all hazards—natural, manmade, emergencies, and disasters—and for assisting local governments in their emergency preparedness, response, recovery, and hazard mitigation efforts. On July 1, 2013, Governor Edmund G. Brown Jr. eliminated the California Emergency Management Agency and restored it to the Governor's Office as the Cal OES.

California Department of Forestry and Fire Protection

The California Department of Forestry and Fire Protection (CAL FIRE) has mapped fire threat potential throughout California. The CAL FIRE ranks fire threat based on the availability of fuel and the likelihood of an area burning (based on topography, fire history, and climate). The rankings include no fire threat, moderate, high, and very high fire threat. Additionally, the CAL FIRE produced the *2010 Strategic Fire Plan for California*, which contains goals, objectives, and policies to prepare for and mitigate for the effects of fire on California's natural and built environments (CalFire 2010).

State Responsibility Areas Fire Safe Regulations

State Responsibility Areas (SRA) Fire Safe Regulations outline basic wildland fire protection standards and can decrease the risk of wildfire events. SRA Fire Safe Regulations do not supersede local regulations that equal or exceed minimum State regulations. The State statute for wildfire protection is Public Resources Code (PRC) Section 4290. Requirements in the PRC include information on:

- Road standards for fire equipment access
- Standards for signs identifying streets, roads, and buildings
- Minimum private water supply reserves for emergency fire use
- Fuel breaks and greenbelts
- Basic emergency access

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California Environmental Protection Agency

The CalEPA was created in 1991, unifying California’s environmental authority in a single cabinet-level agency and bringing the California Air Resources Board, State Water Resources Control Board, Regional Water Quality Control Boards (RWQCBs), California Department of Resources Recycling and Recovery (formerly the Integrated Waste Management Board), DTSC, Office of Environmental Health Hazard Assessment, and Department of Pesticide Regulation under one agency. These agencies were placed within the CalEPA as the “umbrella” for the protection of human health and the environment and to ensure the coordinated deployment of State resources. Its mission is to restore, protect, and enhance the environment, to ensure public health, environmental quality, and economic vitality.

Department of Toxic Substance Control

The DTSC is a department of CalEPA and is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. The DTSC regulates hazardous waste in California primarily under the authority of the federal RCRA and the California Health and Safety Code (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5). Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

Government Code Section 65962.5 directs DTSC to compile a list (commonly referred to as the Cortese List) of DTSC-listed hazardous waste facilities and sites, Department of Health Services (DHS) lists of contaminated drinking water wells, sites listed by the State Water Resources Control Board as having underground storage tank (UST) leaks and which have had a discharge of hazardous wastes or materials into the water or groundwater, and lists from local regulatory agencies of sites that have had a known migration of hazardous waste/material.

The DTSC is also responsible for implementing the RCRA program as well as California’s own hazardous waste laws, which are collectively known as the Hazardous Waste Control Law. Under the Certified Unified Program Agency (CUPA) program, CalEPA has in turn delegated enforcement authority to Yolo County Environmental Health for State law regulating hazardous waste producers or generators in the County. A CUPA is a local agency that has been certified by CalEPA to implement the local Unified Program. The CUPA can be a county, city, or joint powers authority. A participating agency is a local agency that has been designated by the local CUPA to administer one or more Unified Programs within their jurisdiction on behalf of the CUPA. A designated agency is a local agency that has not been certified by CalEPA to become a CUPA, but is the responsible local agency that would implement the six Unified Programs until they are certified. Currently, there are 83 CUPAs in California.

California Health and Safety Code and Code of Regulations

California Health and Safety Code Chapter 6.95 and California Code of Regulations, Title 19, Section 2729 set out the minimum requirements for business emergency plans and chemical inventory reporting. These regulations require businesses to provide emergency response plans and procedures, training program information, and a hazardous material chemical inventory disclosing hazardous materials stored, used, or

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handled on-site. A business that uses hazardous materials or a mixture containing hazardous materials must establish and implement a business plan if the hazardous material is handled in certain quantities.

Regional Regulations

Central Valley Regional Water Quality Control Board

The Porter-Cologne Water Quality Act, California Water Code Sections 13000 et seq., established the State Water Resources Control Board and divided the state into nine regional basins, each under the jurisdiction of a Regional Water Quality Control Board (RWQCB). The Central Valley RWQCB regulates water quality in the City of Davis. The Central Valley RWQCB has the authority to require groundwater investigations when the quality of groundwater or surface waters of the state is threatened, and to require remediation actions, if necessary.

Yolo Operational Area Multi-Jurisdictional Hazard Mitigation Plan

The 2018 Yolo Operational Area Multi-Jurisdictional Hazard Mitigation Plan (HMP) was developed with the intent of establishing an inter-jurisdictional process for the development and implementation of effective hazard mitigation strategies in association with identified hazards that pose real or potential threats to the Yolo Operational Area (YOA). The YOA include the Cities of Davis, West Sacramento, Winters, and Woodland, the Yocha Dehe Wintun Nation, the Housing Authority of the County of Yolo, and the unincorporated areas of Yolo County. The plan identifies and evaluates specific local hazard mitigation strategies to be considered by the YOA and associated planning support for those strategies developed by its political subdivisions, agencies, special districts and organizations (Yolo 2018).

County of Yolo Emergency Operations Plan

The County of Yolo Emergency Operations Plan (EOP) provides the basis for a coordinated response before, during, and after a disaster incident affecting Yolo County. The Plan accomplishes the following:

- Establishes the emergency management organization required to mitigate any significant emergency or disaster affecting Yolo County.
- Identifies the roles and responsibilities required to protect the health and safety of Yolo County residents, public and private property, and the environmental effects of natural and technological emergencies and disasters.
- Establishes the operational concepts associated with a field response to emergencies, the County of Yolo Emergency Operations Center (EOC) activities and the recovery process (Yolo 2013).

Yolo County Airport Comprehensive Land Use Plan

Yolo County Airport Comprehensive Land Use Plan provides the land use compatibility and establishes the planning boundaries around the airport. Planning boundaries are established for height, noise, and safety. The Sacramento Area Council of Governments (SACOG) has been designated the ALUC for the counties of Sacramento, Sutter, Yolo and Yuba.

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Local Regulations

City of Davis General Plan

The Davis General Plan includes the following policies and actions pertaining to hazards and hazardous materials (the numbering below matches the numbering in the General Plan):

Goal HAZ 4. Reduce the use, storage and disposal of toxic and hazardous substances in Davis, and promote alternatives to such substances and their clean up.

Policy HAZ 4.1 Reduce and manage toxics within the planning area.

Actions

- a. Before construction starts, a project proponent will submit a hazardous materials management plan for construction activities that involve hazardous materials. The plan shall discuss proper handling and disposal of materials used or produced onsite, such as petroleum products, concrete, and sanitary waste, shall be established prior to the commencement of construction-related activities, and shall be strictly enforced by the project proponent. A specific protocol to identify health risks associated with the presence of chemical compounds in the soil and/or groundwater and identify specific protective measures to be followed by the workers entering the work area. The City of Davis will make available up-to-date information on known hazardous waste sites if the presence of hazardous materials is suspected or encountered during construction-related activities, the project proponent shall complete a Phase I or Phase II hazardous materials study for each identified site.
- c. Continue to cooperate with Yolo County agencies in implementing State laws relating to the use of hazardous materials, including the review of “business plans” for businesses using hazardous materials.
- g. Provide persons and small businesses within the planning area with environmental information or audits to help them conserve resources, energy, reduce toxics and waste, and provide general education on how to run an environmentally friendly business or household.
- h. Educate owners of business with operations potentially polluting groundwater as to appropriate management practices.

Policy HAZ 4.2 Provide for the proper disposal of hazardous materials in Davis.

Actions

- a. Continue the program to educate residents on the negative impacts of dumping hazardous materials in driveways, streets, and drains.
- b. Continue programs aimed at ensuring that household hazardous wastes and small generator commercial wastes are not disposed of in the general waste stream.
- c. Continue and expand the household hazardous waste collection and recycling program and the small quantity generator program.

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Policy HAZ 4.7 Ensure that remediation of hazardous waste sites is conducted in the most timely and environmentally responsible manner possible.

Actions

- Maintain an enforcement program to ensure that all releases of hazardous materials are promptly and appropriately cleaned up to the level required by law.
- Proactively work with site owners and state and federal agencies to expediently clean up hazardous materials sites.

4.7.1.2 EXISTING CONDITIONS

This section describes existing conditions related to hazardous materials, airport hazards, and wildland fires associated with the proposed project.

Hazardous Materials Sites

As shown in Table 4.7-1 and Figure 4.7-1, a search of several hazardous waste databases, including DTSC's EnviroStor, SWRCB Geotracker, EPA's EJScreen, and EPA's EnviroMapper, identified the following listed properties within the Specific Plan Area and a 0.25-mile radius of the Specific Plan Area, including five with open status (DTSC 2021; SWRCB 2021; USEPA 2021a; USEPA 2021b).

TABLE 4-7.1 HAZARDOUS MATERIALS SITES WITHIN THE SPECIFIC PLAN AREA & ITS 0.25 MILE

Site Address	Database	Identifier	Cleanup Status	Proximity to Specific Plan Area
Former Texaco Site 712 G St Davis, CA 95616	Geotracker	LUST Cleanup Sites	Completed - Case Closed as of 11/7/2001	Within the Specific Plan Area
Lewis Cleaners 670 G Street Davis, CA 95616	Geotracker	LUST Cleanup Sites	Open - Site Assessment As of 6/2/2001	Within the Specific Plan Area
76 Broadway (Aka) Unocal #4846 501 G St Davis, CA 95616	Geotracker	LUST Cleanup Sites	Completed - Case Closed as of 12/30/2009	Within the Specific Plan Area
Shell Service Station 435 G Street Davis, CA 95616	Geotracker	LUST Cleanup Sites	Completed - Case Closed as of 3/3/2006	Within the Specific Plan Area
Davis Center Project 5th & G Streets Davis, CA 95616	Geotracker	LUST Cleanup Sites	Open - Site Assessment As of 9/16/2019	Within the Specific Plan Area
Former SS 408 G St Davis, CA 95616	Geotracker	LUST Cleanup Sites	Completed - Case Closed as of 1/13/2009	Within the Specific Plan Area
Davis Enterprise 302 G Street Davis, CA 95616	Geotracker	LUST Cleanup Sites	Open - Site Assessment As of 6/2/2002	Within the Specific Plan Area

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TABLE 4-7.1 HAZARDOUS MATERIALS SITES WITHIN THE SPECIFIC PLAN AREA & ITS 0.25 MILE

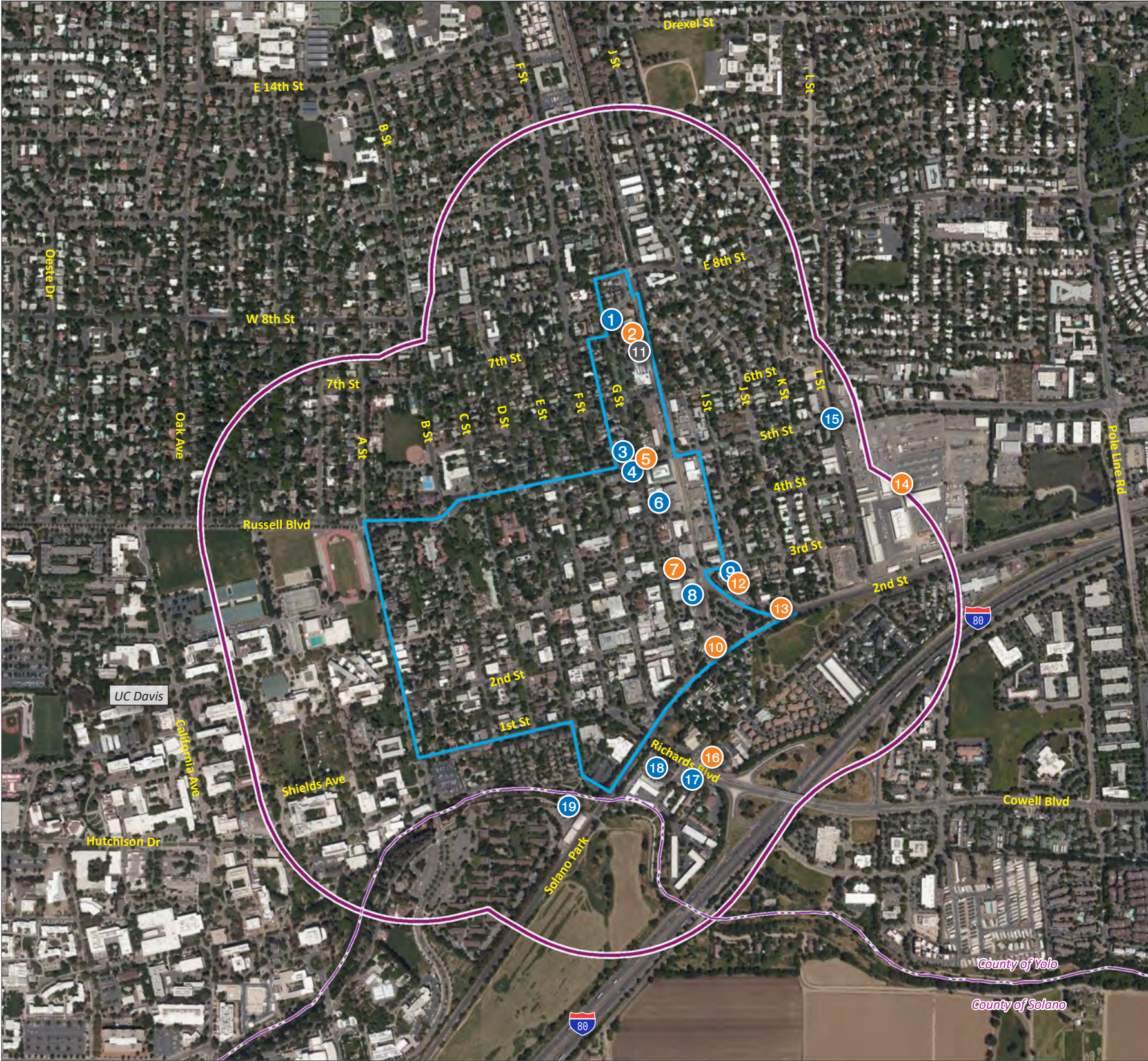
Site Address	Database	Identifier	Cleanup Status	Proximity to Specific Plan Area
Davis Lumber 240 G St Davis, CA 95616	Geotracker	LUST Cleanup Sites	Completed - Case Closed as of 6/13/1989	Within the Specific Plan Area
Cable Car Wash 904 3rd St Davis, CA 95616	Geotracker	LUST Cleanup Sites	Completed - Case Closed as of 5/27/2014	Within the Specific Plan Area
Union Pacific Railroad - Davis Amtrak Station G Street Davis, CA 95616	Geotracker	LUST Cleanup Sites	Open - Verification Monitoring As of 7/1/1998	Within the Specific Plan Area
California Veterinary Diagnostic Lab Davis, CA 95616	Envirostar	LUST Cleanup Sites	Inactive	Within the Specific Plan Area
I Street Development Co 920 3rd St Davis, CA 95616	Geotracker	LUST Cleanup Sites	Open – Remediation As of 7/21/2012	306 feet E
203 J Street Davis, CA 95616	Geotracker	LUST Cleanup Sites	Open – Assessment & Interim Remedial Action As of 5/20/2019	100 feet NE
Pg&E Davis Service Center 316 L Street Davis, CA 95616	Geotracker	LUST Cleanup Sites	Open – Remediation As of 3/16/2016	1260 feet E
Gas N Save (Armour Oil) 504 L St & 5th St Davis, CA 95616	Geotracker &Envirostar	LUST Cleanup Sites	Completed - Case Closed as of 12/14/2011	1153 feet E
Shell Service Station 1010 Olive Drive Davis, CA 95616	Geotracker	LUST Cleanup Sites	Open – Verification Monitoring As of 8/2/2016	466 feet SE
Chevron #9-5631 980 Olive Dr Davis, CA 95616	Geotracker	LUST Cleanup Sites	Completed - Case Closed as of 3/3/1997	353 feet SE
Davis Honda Yamaha 975 Olive Dr Davis, CA 95616	Geotracker	LUST Cleanup Sites	Completed - Case Closed as of 9/23/1993	134 feet SE
Madding A/C & Heating Co 17 Arboretum Dr Davis, CA 95616	Geotracker	LUST Cleanup Sites	Completed - Case Closed as of 3/19/1996	372 feet SW

Source: DTSC 2021; SWRCB 2021

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HAZARDS



Hazardous Material Sites

- 1 Former Texaco Site (712 G Street, Davis, CA 95616) - Closed
- 2 Lewis Cleaners (670 G Street, Davis, CA 95616) - Open
- 3 76 Broadway (aka) Unocal #4846 (501 G Street, Davis, CA 95616) - Closed
- 4 Shell Service Station (435 G Street, Davis, CA 95616) - Closed
- 5 Davis Center Project (5th & G Streets, Davis, CA 95616) - Open
- 6 Former SS (408 G Street, Davis, CA 95616) - Closed
- 7 Davis Enterprise (302 G Street, Davis, CA 95616) - Open
- 8 Davis Lumber (240 G Street, Davis, CA 95616) - Closed
- 9 Cable Car Wash (904 3rd Street, Davis, CA 95616) - Closed
- 10 Union Pacific Railroad - Davis Amtrak Station (840 2nd Street, Davis, CA 95616) - Open
- 11 California Veteriary Diagnostic Lab (PO Box, Davis, CA 95617. Actual Physical Location Undetermined) - Inactive
- 12 I Street Development Co. (920 3rd Street, Davis, CA 95616) - Open
- 13 Empty Residential Lot (203 J Street, Davis, CA 95616) - Open
- 14 PG&E Davis Service Center (316 L Street, Davis, CA 95616) - Open
- 15 Gas N Save (Armour Oil) (504 L Street & 5th Street, Davis, CA, 95616) - Closed
- 16 Shell Service Station (1010 Olive Drive, Davis, CA 95616) - Open
- 17 Chevron #9-5631 (980 Olive Drive, Davis, CA95616) - Closed
- 18 Davis Honda Yamaha (975 Olive Drive, Davis, CA 95616) - Closed
- 19 Madding A/C & Heating Co. (17 Arboretum Drive, Davis, CA 95616) - Closed

Specific Plan Boundary
0.25-Mile Radius

Note: Orange denotes Open Cleanup Status.
Blue denotes Closed Cleanup Status.
Grey denotes Inactive Cleanup Status.

Source: ESRI, 2021
0 0.25
Scale (Miles)

Figure 4.7-1
Hazardous Material Sites in the Specific Plan Area and within a 0.25 Mile Radius

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Existing Schools

The Davis Community Church Nursery School is located on 477 4th Street within the Specific Plan Area. There are also four schools within 0.25 mile of the Specific Plan Area. University of California, Davis (UC Davis) borders the Specific Plan Area to the west. Davis School for Independent Study, a school for students in kindergarten through twelfth grade, and Martin Luther King High School are located approximately 527 feet and 1,000 feet northwest of the Specific Plan Area, respectively. Little Friends Montessori School is a private preschool located 1,000 feet north of the Specific Plan Area.

Airport Hazards

The Yolo County Airport is located approximately 6.3 miles northwest of the Specific Plan Area. The Federal Aviation Administration requires runway protection zones and height limits on structures near airports to reduce risks to the public. The Specific Plan Area is not located within the safety zone of the Yolo County airport. Additionally, the University Airport, owned by University of California and operated by Transportation Services of the University of California, Davis, is located 2.4 miles west of the Specific Plan Area. The University Airport is operated as a general aviation airport and is open to the public. Although the University Airport does not have an airport land use plan, University Airport Rules and Regulations have been established to protect health, safety, and peace and to provide for the orderly conduct of activities on the Airport site. In addition, the Airport Layout Plan for the University Airport includes clearance heights necessary for operations at the airport. According to the Airport Layout Plan, a total clear space of approximately 240 vertical feet is needed at a distance of approximately one mile. The Specific Plan Area is not within the safety zone of the University Airport.

Wildland Fire Hazard

CAL FIRE evaluates fire hazard severity risks according to areas of responsibility (i.e., federal, State, and local). According to CAL FIRE, the entire City of Davis is a Local Responsibility Area (LRA). The Specific Plan Area is not within a CAL FIRE designated State Responsibility Area (SRA), nor is it classified as a very high, high, or moderate fire hazard severity zone. (CalFire 2007). Fire protection services for the Specific Plan Area are provided by Davis Fire Department (DFD).

4.7.1.3 PLANS, PROGRAMS, AND POLICIES

Downtown Davis Specific Plan

The proposed Downtown Davis Specific Plan contains the following implementation actions pertaining to hazards and hazardous materials:

- **Action 7.** Create a Downtown Resiliency Plan
 - **Methodology/Step 7A.** Coordinate a Downtown Resiliency Plan with a Downtown Hazard Plan to assess vulnerabilities in Downtown.

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4.7.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in significant hazards and hazardous materials impacts if it would:

1. Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials.
2. 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.
3. Emit hazardous emissions or handle hazardous materials, substances or waste within ¼-mile of an existing or proposed school.
4. Be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area.
6. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
7. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

4.7.3 IMPACT DISCUSSION

HAZ-1	Implementation of the proposed project would not create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials.

Operation

Implementation of the project would result in an increase in residential dwelling units and commercial square footage within the Specific Plan Area. Operation of the future residential uses that would be accommodated under the proposed project would involve the use of small quantities of hazardous materials for cleaning and maintenance purposes, such as paints, household cleaners, fertilizers, and pesticides. Operation of the future commercial uses would also involve use of small amounts of hazardous materials. The types of commercial uses, and thus the types of hazardous materials to be used, are not yet known. However, the use of commercial-grade chemicals, cleaners, and solvents would be anticipated from the proposed retail/commercial uses. No manufacturing, industrial, or other uses utilizing large amounts of hazardous materials would be permitted to occur within the Specific Plan Area.

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The use, storage, transport, and disposal of hazardous materials by future residents and commercial tenants of the proposed project would be required to comply with existing regulations of several agencies, including the California Department of Toxic Substances Control, US Environmental Protection Agency, California Division of Occupational Safety and Health, California Department of Transportation, County of Yolo Environmental Health Division, and Davis Fire Department (DFD). Hazardous materials must also be stored and handled according to manufacturer's directions. Compliance with applicable laws, regulations, and guidelines governing the use, storage, transport, and disposal of hazardous materials would ensure that all potentially hazardous materials are used and handled in an appropriate manner and would minimize the potential for safety impacts to occur. Additionally, future residential and commercial uses of the proposed project would be constructed and operated with strict adherence to all emergency response plan requirements set forth by the City of Davis and DFD. In addition, the City, in cooperation with Yolo County, reviews business plans for businesses that use hazardous materials to reduce risks associated with toxics and hazardous waste.

Therefore, hazards to the public or the environment arising from the routine use, storage, transport, and disposal of hazardous materials during project operation would not occur. Impacts would be less than significant.

Construction

Construction activities facilitated by the proposed project would involve the use of larger amounts of hazardous materials than would project operation. Construction activities would include the use and disposal of materials such as fuels, lubricants, and greases in construction equipment and coatings used in construction. However, the materials used would not be in such quantities or stored in such a manner as to pose a significant safety hazard. Construction activities related to individual development projects would also be short term or one time in nature.

The use, storage, transport, and disposal of construction-related hazardous materials and waste would be required to conform to existing laws and regulations. Construction workers on future development projects would be trained in safe handling and hazardous materials use. Compliance with applicable laws and regulations governing the use, storage, and transportation of hazardous materials would ensure that all potentially hazardous materials are used and handled in an appropriate manner and would minimize the potential for safety impacts to occur. For example, all spills or leakage of petroleum products during construction activities are required to be immediately contained, the hazardous material identified, and the material remediated in compliance with applicable state and local regulations for the cleanup and disposal of that contaminant. All contaminated waste encountered would be required to be collected and disposed of at an appropriately licensed disposal or treatment facility.

As noted above, General Plan policy HAZ 4.1a requires a project proponent to submit a hazardous materials management plan for construction activities that involve hazardous materials. The plan would discuss proper handling and disposal of materials used or produced onsite. It further specifies that it include specific protocols to identify health risks associated with the presence of chemical compounds in the soil and/or groundwater and identify specific protective measures to be followed by the workers entering the work area. Furthermore, strict adherence to all emergency response plan requirements set forth by the City of Davis and DFD would be required through the duration of the project construction.

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Therefore, hazards to the public or the environment arising from the routine use of hazardous materials during project construction would be less than significant.

Significance Without Mitigation: Less than significant.

HAZ-2	Implementation of the proposed project would not 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.

Future development accommodated by the project would involve use and storage of hazardous materials, including common cleaning products, building maintenance products, and paints and solvents, and would generate regulated hazardous wastes. Releases of hazardous materials could occur during future construction activities and/or operation.

In some cases, building demolition would be required to accommodate future development in the Specific Plan Area. Demolition activities may require the removal of building material containing potentially hazardous substances, including asbestos and lead-based paint. Sites with known contamination could also be disturbed by future excavation and/or grading. However, as noted above, the hazardous materials management plan required by General Plan policy HAZ 4.1a would include specific protocols to identify health risks associated with the presence of chemical compounds in the soil and/or groundwater and identify specific protective measures to be followed by the workers entering the work area. In addition, future development would be required to comply with applicable regulatory requirements for the safe removal of these and any other hazardous substances.

Future construction activities in the Specific Plan Area would include the transport, storage, and use of chemical agents, solvents, paints, and other hazardous materials commonly associated with construction activities. Construction activities, including chemical transport, storage, and use, would be required to comply with applicable regulations regarding transport, storage, and use of hazardous materials. Compliance with these regulations would minimize the potential for hazardous material releases. Therefore, this impact would be less than significant.

Significance Without Mitigation: Less than significant.

HAZ-3	Implementation of the proposed project would not emit hazardous emissions or handle hazardous materials, substances or waste within ¼-mile of an existing or proposed school.

The Davis Community Church Nursery School is located on 477 4th Street within the Specific Plan Area. There are also four schools within 0.25 mile of the Specific Plan Area. University of California, Davis (UC Davis) borders the Specific Plan Area to the west. Davis School for Independent Study and Martin Luther King High School are located approximately 527 feet and 1,000 feet northwest of the Specific Plan Area, respectively. Little Friends Montessori School is located 1,000 feet north of the Specific Plan Area. As discussed in Impact HAZ-1, project proponents would be required to submit a hazardous materials

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management plan for construction activities that involve hazardous materials. The plan would discuss proper handling and disposal of materials used or produced onsite and protocols to identify health risks associated with the presence of chemical compounds in the soil and/or groundwater and identify specific protective measures to be followed by the workers entering the work area.

Operation of the future residential and commercial uses that would be accommodated under the proposed project would not generate hazardous emissions or require the handling of acutely hazardous materials, substances, or waste. Although project operations would include the use of potentially hazardous materials, when used correctly, these would not result in a significant impact to residents, workers, or schools in the project vicinity. Therefore, the proposed project would result in less than significant impacts.

Significance Without Mitigation: Less than significant.

HAZ-4	Implementation of the proposed project contains sites that are included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, could create a significant hazard to the public or the environment.

As listed above, there are several hazardous material sites within the Specific Plan Area. The sites in the Specific Plan Area where the cleanup status is listed as open are as follows:

- Lewis Cleaners (Open- Site Assessment as of 6/2/2001): The former Lewis Cleaners suite and adjacent business suites are currently vacant. Tetrachlorethene (PCE) associated with the former Lewis Cleaners was discovered in groundwater during an investigation of the adjacent former Texaco gas station site during the early 1990s. Subsequent investigations determined that the highest concentrations of PCE were found next to the dry cleaning facility. PCE is found in soil gas at the former Lewis Cleaners facility, and soil cleanup using a soil vapor extraction system was started at the former Lewis Cleaners facility in 2009 but was only operated for a limited period of time. Potentially responsible parties for the site are now preparing to re-start and enhance the soil cleanup as well as add a cleanup mixture of nutrients, zero valent iron, and bacterial cultures to fully breakdown PCE in groundwater beneath the site (SWRCB 2021).
- Davis Center Project (Open- Site Assessment as of 9/16/2019): The Davis Center Project encompasses portions of three city blocks with the City of Davis. One city block, bounded by Fifth Street to the north, a railroad spur to the east, Fourth Street to the south, and G Street to the west, is referred to as the Plaza Property. This city block was owned by the City of Davis until September 1997, which then ownership was transferred to 5th and G Plaza, Inc. The other two city blocks considered part of the site are located west and south of the Plaza Property. PCE was first detected within shallow groundwater during a site investigation conducted at a former service station in the southwest corner of the Plaza Property back in 1990 (SWRCB 2021). The case is currently open. Site characterization, investigation, risk evaluation, and/or site conceptual model development are occurring at the site. (SWRCB 2021).

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- Davis Enterprise (Open- Remediation as of 6/2/2002): Historical fire insurance maps and title reports identify that between the 1930s and 1960s Davis Laundry and Dry Cleaners operated at the site. Davis Cleaners was reported to have used PCE that was discharged to the sanitary sewer system. After 1966, the site was used by Davis Enterprise for newspaper printing. Site investigations conducted between 1998 and 2006 revealed the presence of PCE. Release of wastewater containing PCE from the sewers was identified as a potential mechanism for contributing PCE to groundwater at the site (SWRCB 2021). An approved remedy has been selected for the impacted media at the site and the responsible party (RP) is implementing one or more remedy under an approved cleanup plan for the site. (SWRCB 2021).
- Union Pacific Railroad- Davis Amtrak Station (Open- Site Assessment as of 7/1/1998): The Union Pacific Railroad Company (UPRR), Davis Amtrak Station is located east of G Street and South of Third Street in Davis. The City of Davis purchased the Amtrak Station from UPRR in the mid-1990s. PCE has been detected in soil, soil vapor, and groundwater and may be the result of past operations at the site. The affected soil and groundwater is limited in aerial extent to an area located near the center of the station (SWRCB 2021).

Given the recognized environmental concerns on these sites, development or redevelopment of these sites could create a significant hazard to the public or the environment. Mitigation Measure HAZ-1 requires sampling and testing for contaminated soil prior to grading of these sites. If contaminated soil is identified, Mitigation Measure HAZ-2 requires that a Soil Management Plan be prepared for removal and disposal of the soil and that the contamination be remediated to below environmental screening levels for a residential land use scenario per SCEHD requirements.

Significance Without Mitigation: Potentially significant.

Mitigation Measures

Mitigation Measure HAZ-1: Prior to issuance of grading permits for a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5, the site developer(s) shall have soils samples taken on-site to determine the location of any contaminated soils on the site with concentrations above worker safety thresholds established by the Regional Water Quality Control Board (RWQCB). Once a soil sampling analysis is complete, a report of the findings shall be provided to the City of Davis Public Works Department for review and approval.

- Measures shall be printed on all construction documents, contracts, and project plans prior to issuance of grading permits.

Mitigation Measure HAZ-2: If contaminated soils are found in concentrations above established worker safety RWQCB thresholds, the site developer shall ensure a Soil Management Plan (SMP) is prepared and implemented (as outlined below) and any contaminated soils found in concentrations above established thresholds shall be removed and disposed of according to California Hazardous Waste Regulations.

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The SMP shall be prepared by a qualified hazardous materials consultant and provided to the City of Davis. At a minimum, the SMP shall include:

- a. Management practices for handling contaminated soil or other materials if encountered during construction or cleanup activities and measures to minimize dust generation, stormwater runoff, and tracking of soil off-site.
- b. Preliminary Remediation Goals (PRGs) for environmental contaminants of concern to evaluate the site conditions following SMP implementation.
- c. A Health and Safety Plan (HSP) for each contractor working at the site that addresses the safety and health hazards of each phase of site operations that includes the requirements and procedures for employee protection. The HSP will also outline proper soil handling procedures and health and safety requirements to minimize worker and public exposure to hazardous materials during construction.
- d. Cleanup and remediation activities on the site prior to building construction shall be conducted in accordance with the SMP.

The SMP shall be prepared and submitted to the City of Davis for review and approval prior to issuance of grading permits and commencement of cleanup activities. The approved SMP shall detail procedures and protocols for management of soil containing environmental contaminants during site development activities.

All measures shall be printed on all construction documents, contracts, and project plans prior to issuance of grading permits.

A No Further Action letter (or equivalent assurance) shall be provided to the City of Davis prior to issuance of any grading permit for the development project proposed at the site.

Significance With Mitigation: Less than significant.

Implementation of Mitigation Measures HAZ-1 and HAZ-2 would ensure that any contaminated soils on these sites would be properly remediated. With remediation this impact is less than significant.

HAZ-5	Implementation of the proposed project would not be located within an airport land use plan, or within 2 miles of a public airport or public use airport.

As discussed above, the Yolo County Airport and the University Airport are located approximately 6.3 miles northwest and 2.4 miles west of the Specific Plan Area, respectively. The Specific Plan Area is not within the Yolo County Airport Comprehensive Land Use Plan. The Specific Plan Area is outside of the areas where land uses are regulated respecting air crash hazards, and areas where heights of structures are limited to prevent airspace obstructions for aircraft approaching or departing both airports. Thus, implementation of the proposed project would not result in safety hazards related to aircraft operations and no impact would occur.

Significance without Mitigation: No Impact.

HAZARDS AND HAZARDOUS MATERIALS

HAZ-6	Implementation of the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

The Standardized Emergency Management System (SEMS), California Code of Regulations, Title 19, Division 2, Section 2443, requires compliance with the SEMS to “be documented in the areas of planning, training, exercise, and performance.” The EOP, which is overseen and managed by the Yolo Office of Emergency Services, meets the SEMS requirements of state law. The EOP addresses the planned response by Yolo County to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies. The purpose of the EOP is to guide the mitigation and response and recovery efforts of the Yolo County before, during, and after an emergency. Under the EOP, The Emergency Planning Team provides dedicated staff responsible for managing the County’s Emergency Operations Center (EOC), which include personnel from County departments, supporting allied agencies and community organizations that have been assigned primary functions or responsibilities within the EOP.

Future development would not interfere with the implementation of the EOP or any of the daily operations of the County’s Emergency Operation Center, DFD, or Davis Police Department. All construction activities would be required to be performed per the City’s and DFD’s standards and regulations. Future development would also be required to go through the City’s development review and permitting process and would be required to incorporate all applicable design and safety standards and regulations, as set forth by DFD and in the Chapter 13 (Fire Code) of the City’s Municipal Code, to ensure that they do not interfere with the provision of local emergency services (e.g., provision of adequate access roads to accommodate emergency response vehicles, adequate numbers/locations of fire hydrants, etc.).

Therefore, the proposed project would not impair implementation of or physically interfere with the City of Davis or Yolo County’s emergency response or evacuation plans. Project-related impacts would be less than significant.

Significance without Mitigation: Less than Significant

HAZ-7	Implementation of the proposed project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

A wildland fire hazard area is typically characterized by areas with limited access, rugged terrain, limited water supply, and combustible vegetation. There would be no impact for wildland fire risks due to implementation of the Specific Plan, as substantiated in Section 6.1.8, Wildfire. The Specific Plan Area is not in or near a state responsibility area or land classified as very high fire hazard severity zone. Therefore, implementation of the Specific Plan would not introduce people or structures to substantial hazards from wildland fires and no impact would occur.

Significance without Mitigation: No Impact.

HAZARDS AND HAZARDOUS MATERIALS

4.7.4 CUMULATIVE IMPACTS

HAZ-8	Implementation of the proposed project would result in less-than-significant cumulative impacts with respect to hazards and hazardous materials.

The area considered for cumulative impacts is the City of Davis. Hazards and hazardous waste impacts are typically unique to each site and do not usually contribute to cumulative impacts. Cumulative development projects would be required to assess potential hazardous materials impacts on the development site prior to grading. The Specific Plan and other cumulative projects would be required to comply with laws and regulations governing hazardous materials and hazardous waters used and generated as described in Section 4.6.1.1. Therefore, cumulative impacts related to hazards and hazardous materials would be less than significant after regulatory compliance.

Significance Without Mitigation: Less than significant.

HAZARDS AND HAZARDOUS MATERIALS

4.7.5 REFERENCES

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4.8 HYDROLOGY AND WATER QUALITY

This chapter describes the regulatory framework and existing conditions on the project site related to water quality and hydrology, and the potential impacts of the project on water quality.

4.8.1 ENVIRONMENTAL SETTING

4.8.1.1 REGULATORY FRAMEWORK

Federal Regulations

Clean Water Act

The federal Water Pollution Control Act (or Clean Water Act [CWA]) is the principal statute governing water quality. It establishes the basic structure for regulating discharges of pollutants into the waters of the United States and gives the EPA authority to implement pollution control programs, such as setting wastewater standards for industry. The statute's goal is to completely end all discharges and to restore, maintain, and preserve the integrity of the nation's waters. The CWA regulates direct and indirect discharge of pollutants; sets water quality standards for all contaminants in surface waters; and makes it unlawful for any person to discharge any pollutant from a point source into navigable waters unless a permit is obtained under its provisions. The CWA mandates permits for wastewater and stormwater discharges; requires states to establish site-specific water quality standards for navigable bodies of water; and regulates other activities that affect water quality, such as dredging and the filling of wetlands. The CWA funds the construction of sewage treatment plants and recognizes the need for planning to address nonpoint sources of pollution. Section 402 of the CWA requires a permit for all point source (a discernible, confined, and discrete conveyance, such as pipe, ditch, or channel) discharges of any pollutant (except dredge or fill material) into waters of the United States.

CWA Section 402 -- National Pollutant Discharge Elimination System

Under the National Pollutant Discharge Elimination System (NPDES) program (under Section 402 of the CWA), all facilities that discharge pollutants from any point into water of the United States must have a NPDES permit. The term "pollutant" broadly applies to any type of industrial, municipal, and agricultural waste discharged into water. Point sources can be publicly owned treatment works (POTWs), industrial facilities, and urban runoff. (The NPDES program addresses certain agricultural activities, but the majority are considered nonpoint sources and are exempt from NPDES regulation.) Direct sources discharge directly to receiving waters, and indirect sources discharges to POTWs, which in turn discharge to receiving waters. Under the national program, NPDES permits are issued only for direct, point-source discharges. The National Pretreatment Program addresses industrial and commercial indirect discharges. Municipal sources are POTWs that receive primarily domestic sewage from residential and commercial customers. Specific NPDES program areas applicable to municipal sources are the National Pretreatment Program, the Municipal Sewage Sludge Program, Combined Sewer Overflows (CSOs), and the Municipal Storm Water Program. Nonmunicipal sources industrial and commercial facilities. Specific NPDES program areas applicable to these industrial/commercial sources are: Process Wastewater Discharges, Non-Process

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Wastewater Discharges, and the Industrial Storm Water Program. NPDES issues two basic permit types: individual and general. Also, the EPA has recently focused on integrating the NPDES program further into watershed planning and permitting.

The State Water Resources Control Board (SWRCB) issues NPDES permits to cities and counties through the Regional Water Quality Control Boards (RWQCB). It is the responsibility of the RWQCBs to preserve and enhance the quality of the State's waters by developing water quality control plans and issuing waste discharge requirements. Waste discharge requirements for discharges to surface waters also serve as NPDES permits.

The NPDES program has a variety of measures designed to minimize and reduce pollutant discharges. All counties with storm drain systems that serve a population of 50,000 or more, as well as construction sites one acre or more in size, must file for and obtain an NPDES permit. Another measure for minimizing and reducing pollutant discharges to a publicly owned conveyance or system of conveyances (including roadways, catch basins, curbs, gutters, ditches, man-made channels and storm drains, designed or used for collecting and conveying stormwater) is the EPA's Storm Water Phase II Final Rule. The Phase II Final Rule requires an operator (such as a City) of a regulated small municipal separate storm sewer system (MS4) to develop, implement, and enforce a program (e.g., Best Management Practices [BMPs], ordinances, or other regulatory mechanisms) to reduce pollutants in post-construction runoff to the City's storm drain system from new development and redevelopment projects that result in the land disturbance of greater than or equal to one acre.

CWA Section 303 – List of Impaired Water Bodies

CWA Section 303(d) requires that all states in the United States identify water bodies that do not meet specified water quality standards and that do not support intended beneficial uses. Identified waters are placed on the Section 303(d) List of Impaired Water Bodies. Once waters are placed on this list, states are required to develop TMDLs limit for each water body and each associated pollutant/stressor.

Safe Drinking Water Act

The federal Safe Drinking Water Act (SDWA) regulates drinking water quality nationwide and gives the U.S. Environmental Protection Agency (EPA) the authority to set drinking water standards, such as the National Primary Drinking Water regulations (NPDWRs or primary standards). The NPDWRs protect drinking water by limiting the levels of specific contaminants that can adversely affect public health. All public water systems that provide service to 25 or more individuals must meet these standards. Water purveyors must monitor for contaminants on fixed schedules and report to the EPA when a maximum contaminant level (MCL) is exceeded. MCL is the maximum permissible level of a contaminant in water that is delivered to any use of a public water system. Contaminants include organic and inorganic chemicals (e.g., minerals), substances that are known to cause cancer, radionuclides (e.g. uranium and radon), and microbial contaminants (e.g., coliform and E. coli). The MCL list typically changes every three years as the EPA adds new contaminants or revises MCLs. The California Department of Public Health's Division of Drinking Water and Environmental Management is responsible for implementation of the SDWA in California.

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Federal Urban Flooding Awareness Act

In recent years, communities have become concerned with localized flooding. In 2015, Congress passed the Urban Flooding Awareness Act of 2015. Under this bill, the National Academy of Sciences will conduct a study on urban flooding. It defines “urban flooding” as the inundation of property in a built environment, particularly in more densely populated areas, caused by rain falling on increased amounts of impervious surface and overwhelming the capacity of drainage systems. The bill directs the National Academy of Sciences to evaluate the latest research, laws, regulations, policies, best practices, procedures, and institutional knowledge regarding urban flooding. The findings from this assessment will direct future federal policies on identifying, preventing, and mitigating urban flooding.

National Flood Insurance Program

The National Flood Insurance Act of 1968 and the Flood Disaster Protection of 1973 mandate the Federal Emergency Management Agency (FEMA) to evaluate flood hazards. FEMA provides Flood Insurance Rate Maps (FIRMs) for local and regional planners to promote sound land use and floodplain development, identifying potential flood areas based on the current conditions. To delineate a FIRM, FEMA conducts engineering studies referred to as Flood Insurance Studies (FISs). Using information gathered in these studies, FEMA engineers and cartographers delineate Special Flood Hazard Areas (SFHAs) on FIRMs.

The Flood Disaster Protection Act (FDPA) requires owners of all structures in identified SFHAs to purchase and maintain flood insurance as a condition of receiving federal or federally related financial assistance, such as mortgage loans from federally insured lending institutions. Community members within designated areas can participate in the National Flood Insurance Program (NFIP) afforded by FEMA. The NFIP is required to offer federally subsidized flood insurance to property owners in those communities that adopt and enforce floodplain management ordinances that meet minimum criteria established by FEMA. The National Flood Insurance Reform Act of 1994 further strengthened the NFIP by providing a grant program for state and community flood mitigation projects. The act also established the Community Rating System (CRS), a system for crediting communities that implement measures to protect the natural and beneficial functions of their flood plains, as well as managing erosion hazards.

State Regulations

Water Supply Assessment

Senate Bill 610 (SB 610) established primary legal standards for assessing the sufficiency of water supplies for new development projects. Affected land developments are those that meet certain size thresholds.

Water Code Sections 10910-10915 require a Water Supply Assessment (WSA) be prepared for a project that meets the following criteria:

- A proposed residential development of more than 500 dwelling units.
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

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- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
- A proposed hotel or motel, or both, having more than 500 rooms.
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- A mixed-use project that includes one or more of the projects specified in this subdivision.
- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The WSA must include additional analysis if any portion of the water purveyor's water supplies include groundwater. The analysis must include a description of any groundwater basin or basins from which the proposed project will be supplied in addition to a detailed description and analysis of the amount and location of groundwater pumped by the public water system for the past five years. The WSA must also include an analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project.

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Act (Water Code sections 13000 et seq.) is the basic water quality control law for California. Under this Act, the State Water Resources Control Board (SWRCB) has ultimate control over state water rights and water quality policy. In California, the EPA has delegated authority to issue NPDES permits to the SWRCB.

Storm Water Pollution Prevention Plans

Pursuant to the CWA, in 2009, the SWRCB issued a statewide general NPDES Permit for storm water discharges from construction sites ("General Construction Permit") (NPDES No. CAS000002, Order No. 2009-0009-DWQ, as amended by Order No. 2010-0014-DWQ and Order 2012-0006-DWQ). Under this General Construction Permit, discharges of storm water from construction sites with a disturbed area of one or more acres are required to either obtain individual NPDES permits for storm water discharges or to be covered by the General Construction Permit. The focus of the permit is to minimize the potential effects of construction runoff on receiving water quality. Coverage by the General Construction Permit is accomplished by completing and filing a Notice of Intent, a site map, a signed certification statement, an annual fee, and a Storm Water Pollution Prevention Plan (SWPPP) with the SWRCB. Each applicant under the General Construction Permit must ensure that a SWPPP is prepared prior to grading and is implemented during construction. The SWPPP must list BMPs implemented on the construction site to protect storm water runoff, and must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a monitoring plan if the site discharges directly to a water body listed on the state's 303(d) list of impaired waters.

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The Construction General Permit program is risk-based, wherein a project's risk is based on the project's potential to cause sedimentation and the risk of such sedimentation on the receiving waters. A project's risk determines its water quality control requirements, ranging from Risk Level 1, which consists of only narrative effluent standards, implementation of BMPs, and visual monitoring, to Risk Level 3, which consists of numeric effluent limitations, additional sediment control measures, and receiving water monitoring. Additional requirements include compliance with post-construction standards focusing on low-impact development, preparation of rain event action plans, increased reporting requirements, and specific certification requirements for certain project personnel.

The SWPPP must include BMPs to reduce construction effects on receiving water quality by implementing erosion control measures and reducing or eliminating non-stormwater discharges. Examples of typical construction BMPs include using temporary mulching, seeding, or other suitable stabilization measures to protect uncovered soils; storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or surface water; developing and implementing a spill prevention and cleanup plan; and installing sediment control devices such as gravel bags, inlet filters, fiber rolls, or silt fences to reduce or eliminate sediment and other pollutants from discharging to the drainage system or receiving waters.

Certain activities during construction may also need to conform to the Waste Discharge Requirements included in the General Order for Dewatering and Other Low Threat Discharges to Surface Waters (Water Quality Order No. 5-00-175). The Dewatering General Order requires that a permit be acquired for dewatering and other low threat discharges to surface waters, provided they do not contain significant quantities of pollutants and either: (1) are four months or less in duration, or (2) the average dry weather discharge does not exceed 0.25 million gallons per day (mgd). Activities that may require the acquisition of such a permit include well development, construction dewatering, pump/well testing, pipeline/tank pressure testing, pipeline/tank flushing or dewatering, condensate discharges, water supply system discharges, and other miscellaneous dewatering/low threat discharges. However, the actions applicable to site development may already be covered under the Construction General Permit, in which case a separate permit may not be required.

Sustainable Groundwater Management Act

In the midst of a major drought, California Governor Jerry Brown signed the Sustainable Groundwater Management Act of 2014 (SGMA). The act consists of three legislative bills, Senate Bill SB 1168 (Pavley), Assembly Bill AB 1739 (Dickinson), and Senate Bill SB 1319 (Pavley). The legislation provides a framework for long-term sustainable groundwater management across California. Under the roadmap laid out by the legislation, local and regional authorities in medium and high priority groundwater basins have formed Groundwater Sustainability Agencies (GSAs) that oversee the preparation and implementation of a local Groundwater Sustainability Plan (GSP).

The California Department of Water Resources (DWR) has developed regulations governing the content of Groundwater Sustainability Plans. Local stakeholders have until 2022 (in critically overdrafted basins until 2020) to develop, prepare, and begin implementation of Groundwater Sustainability Plans. GSAs will have until 2040 to achieve groundwater sustainability.

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Regional Regulations

Central Valley Regional Water Quality Control Board

The state is divided into nine regions related to water quality and quantity characteristics. The SWRCB, through its nine Regional Water Quality Control Boards (RWQCBs) carries out the regulation, protection, and administration of water quality in each region. The project site is under the jurisdiction of the Central Valley RWQCB.

Local Regulations

City of Davis General Plan

The City of Davis General Plan includes various policies aimed at conserving water and ensuring high quality water:

- Policy WATER 1.1: Give priority to demand reduction and conservation over additional water resource development.
- Policy WATER 1.2: Require water conserving landscaping.
- Policy WATER 1.3: Do not approve further development with the City unless an adequate supply of quality water is available or will be developed prior to occupancy.
- Policy WATER 2.1: Provide for the current and long-range water needs of the Davis Planning Area, and for protection of the quality and quantity of groundwater resources.
- Policy WATER 2.2: Manage groundwater resources so as to preserve both quantity and quality.
- Policy WATER 2.3: Maintain surface water quality.

City of Davis Municipal Code

Chapter 30, Stormwater Management and Discharge Control, of the Municipal Code intends to protect and enhance the water quality of watercourses and water bodies in a manner pursuant to and consistent with the Federal Clean Water Act.

Section 30.03.010, Stormwater Discharges Associated with Construction Activity, requires applicants for any project involving construction activity to submit an erosion and sediment control plan that contains, at a minimum, appropriate site-specific construction site BMPs and the rationale used for selecting or rejecting BMPs. The erosion and sediment control plan must be submitted prior to, and is a condition of the issuance of, a grading or building permit. Plan review by City staff would ensure compliance with this section and BMPs may be imposed as conditions of approval for a grading or building permit.

Section 30.03.030, New Development and Significant Redevelopment Projects subject to State of California NPDES Phase II Small Municipal Separate Storm Sewer System General Permit, states that all discretionary development and redevelopment projects are subject to the post-construction standards described in the NPDES General Permit for Phase II Small Municipal Separate Storm Sewer System (NPDES General Permit No. CASS000004).

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The purpose of Article 39.05, Groundwater Wells, is to protect the quality of groundwater which is essential to ensure future prosperity and healthy as the city relies on groundwater for a portion of its drinking water supply. Article 39.05 provides standards for the location, construction, maintenance, rehabilitation, sealing, abandonment, and destruction of all wells so the quality of the groundwater is not polluted, contaminated, or otherwise impacted in a manner which will jeopardize the health, safety, or welfare of the citizens of the city. The intent of these standards is to prevent mixing or transfer of degraded groundwaters into aquifers of good quality water through wells or open borings.

The purpose of Article 40.42, Water Efficient Landscaping, is to comply with the Water Conservation in Landscaping Act of 2006, Government Code Sections 65591 et seq. and to establish standards and procedures that promote the design, installation, and management of water efficient landscaping.

4.8.1.2 EXISTING CONDITIONS

Water Sources

The City of Davis water system is a conjunctive use system and utilizes both surface water and groundwater for its potable water supply. The primary water source is surface water supplied from the Sacramento River, which accounted for approximately 87 percent of delivered water in 2019. Groundwater provides the remaining 13 percent and is pumped from underlying aquifers that range from 200 to 1,700+ feet below ground surface. According to the Water Supply Assessment, the City draws groundwater from the Sacramento Valley groundwater basin, Yolo Subbasin. Historically, the City has relied on groundwater for 100 percent of its water supply through the use of 20 groundwater wells, until the City shifted its water supply to the Sacramento River in 2016. The groundwater pumping, though no longer a primary source of water for the City, will continue to provide a reliable and high-quality secondary water source to the City. The City has active groundwater wells throughout the city, but the majority of water pumped for drinking water comes from five deep aquifer wells (Davis 2021). The City currently has 9 active water supply wells, two elevated water storage tanks with a 4 million-gallon capacity, and over 145 miles of water distribution lines ranging in size from 6 inches through 14 inches.

As indicated in the Water Supply Assessment, the Woodland-Davis Clean Water Agency regional surface water supply project can supply up to 30 million gallons per day (MGD) of potable water per day, with an option for future expansion to 34 MGD. Of the 30 MGD, Woodland's share of treated surface water is 18 MGD, Davis' share is 10.2 MGD and UC Davis' share is 1.8 MGD (Lotus 2020).

Watersheds

Valley Putah-Cache Hydrologic Unit

The City of Davis is located within the Valley Putah-Cache Hydrologic Unit. For purposes of regional planning, hydrologic units are generally considered to be the appropriate watershed planning level. However, the hydrologic unit level is generally too large in terms of a planning scale for individual projects, and a hydrologic area or hydrologic subarea may be considered more appropriate.

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Lower Putah Creek Hydrologic Area

The City of Davis is located in the Lower Putah Creek Hydrologic Area, which is approximately 225,301 acres and bound by Putah Creek to the south and Cache Creek to the north. The headwaters of the watershed begin just west of Winters near Lake Berryessa and extend to the east approximately 25 miles to the Sacramento River. There are 17 water bodies in the Lower Putah Creek Hydrologic Area that are on the 303(d) list (list of impaired and threatened waters), six of which have a Total Maximum Daily Load (TDML) for various pollutants. A TDML is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards. The Specific Plan Area is not within a flood hazard zone and is not located near the ocean or any large lakes.

4.8.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact to hydrology and water quality if it would:

1. Violate any water quality standards for waste discharge requirements or otherwise substantially degrade surface or ground water quality.
2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
3. 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:
 - a. Result in substantial erosion or siltation on- or off-site;
 - b. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
 - c. 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
 - d. Impede or redirect flood flows?
4. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

4.8.3 IMPACT DISCUSSION

HYD-1	Implementation of the proposed project would not violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

Urban runoff resulting from storms or nuisance flows (runoff during dry periods) from development projects can carry pollutants to receiving waters, as runoff can contain pollutants such as oil, fertilizers, pesticides, trash, soil, and animal waste. This runoff can flow directly into local streams or lakes or into

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storm drains and continue through pipes until it is released untreated into a local waterway and eventually the ocean. Untreated stormwater runoff degrades water quality in surface waters and groundwater and can affect drinking water, human health, and plant and animal habitats.

Construction Activities

Clearing, grading, excavation, and construction activities associated with implementation of the proposed project may impact water quality due to erosion of exposed soils and subsequent deposition of particulates in local drainages. Grading activities lead to exposed areas of loose soil and sediment stockpiles that are susceptible to uncontrolled sheet flow. Although erosion occurs naturally in the environment, primarily from weathering by water and wind action, improperly managed construction activities can lead to substantially accelerated rates of erosion that are considered detrimental to the environment and could impact surface water or groundwater.

As part of Section 402 of the Clean Water Act, the U.S. Environmental Protection Agency has established regulations under the NPDES program to control direct stormwater discharges. The NPDES program regulates industrial pollutant discharges, which include construction activities. In California, the SWRCB administers the NPDES permitting program and is responsible for developing NPDES permitting requirements.

Requirements for waste discharges potentially affecting stormwater from construction sites of one acre or more are set forth in the SWRCB's Construction General Permit, Order No. 2012-0006-DWQ, issued in 2012. Future development sites larger than one acre would be subject to requirements of the Construction General Permit. Projects obtain coverage under the Construction General Permit by filing a Notice of Intent with the SWRCB prior to grading activities, and preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP) during construction. The primary objective of the SWPPP is to identify, construct, implement, and maintain BMPs to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from a project site, and to contain hazardous materials. BMP categories include, but are not limited to, erosion control and wind erosion control, sediment control, and tracking control. Examples of BMPs include, but are not limited to, the use of jute bales, covering of soil, retaining walls, minimizing disturbed areas, and diverting stormwater. For project sites smaller than one acre, project applicants would be required to comply with Municipal Code Section 30.03.010, which requires project applicants to submit an erosion and sediment control plan that contains, at a minimum, appropriate site-specific construction site BMPs. Implementation and monitoring required under the SWPPP or Section 30.03.010 would control and reduce short-term intermittent impacts to water quality from construction activities to less than significant levels.

Operational Activities

The primary constituents of concern during implementation of the proposed project would be solids, oils, and grease from streets, parking areas, and driveways that could be carried offsite and eventually impact surface or groundwater quality. To help prevent long-term impacts associated with implementation of the proposed project, site design and source control BMPs would be required to address post-construction stormwater runoff management. Examples include LID requirements, bioswales, jute bails, berms, covering of materials, and silt fencing. Further, Section 30.03.030 states that all discretionary

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development and redevelopment projects are subject to the post-construction standards described in the NPDES.

Furthermore, as part of the state-wide mandate to reduce trash in receiving waters, the Specific Plan Area, as with the rest of the City, would be required to adhere to the requirements of the amended trash total maximum daily load (TMDL). The requirements include the installation and maintenance of trash screening devices at all public curb inlets, grate inlets, and catch basin inlets.

With the implementation of federal, state, and local regulations, runoff from the construction and operational phases of future development resulting from implementation of the proposed project would not violate any water quality standards or waste discharge requirements, and impacts would be less than significant.

Significance Without Mitigation: Less than significant.

HYD-2	Implementation of the proposed project would result in an increase in water demand but would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed project may impede sustainable groundwater management of the basin.

The City relies on local groundwater resources for 13 percent of its water supply. The City pumps from the Sacramento Valley Groundwater Basin, Yolo subbasin, which is not adjudicated and there are no legal restrictions to groundwater pumping. The Department of Water Resources' Bulletin 118 does not consider the Basin to be in overdraft. The City of Davis updates its urban water management plan (UWMP) every five years, quantifying existing and projected water supplies and demands to ensure there will not be any water supply shortages or significant groundwater depletion. The City's 2020 UWMP (Brown and Caldwell 2021) indicates that there would be sufficient water supplies to meet the water demands in single dry and multiple dry years. As indicated in the Water Supply Assessment, it is estimated that the capacity of the City's available water supply without using the intermediate depth groundwater wells is sufficient for the City demand at full buildout in a normal year. It is also estimated that the capacity of the City's non-emergency water supply in a multiple dry year scenario is sufficient for the City's dry year demands. The proposed project's water demands are within the City of Davis' water supply capacity (Lotus 2020).

Although much of the Specific Plan Area is currently developed, implementation of the proposed project could result in some new impervious surfaces and could reduce rainwater infiltration and groundwater recharge. As stormwater quality would be assured through low impact development (LID) project features of future development, and all stormwater would remain within the Basin and be available for groundwater recharge, the proposed project would not significantly affect groundwater recharge or the availability of groundwater. This impact would be less than significant.

Significance Without Mitigation: Less than significant.

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HYD-3	The proposed project would not substantially alter the existing drainage pattern of the Specific Plan Area which would result in substantial erosion or siltation, increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, create or contribute to runoff which would exceed the capacity of existing or planned stormwater drainage systems, or impede flood flows.

Although much of the Specific Plan Area is currently developed, future development in the Specific Plan Area could result in an increase in impervious surfaces. This could result in an increase in stormwater runoff, higher peak discharges to drainage channels, and the potential to cause erosion or sedimentation in drainage swales and streams. Increased runoff volumes and velocities could create nuisance flooding in areas without adequate drainage facilities or increase the pollutant load to storm drain systems.

Under the existing and proposed conditions, drainage patterns would largely be maintained and would utilize the existing drainage facilities within the public right-of-way. Current runoff is captured and conveyed by existing storm drain infrastructure. Under the proposed conditions, overall drainage patterns, flow rates, and flow volumes would be maintained based on the high level of impervious condition under the existing condition and would not substantially increase the opportunity for erosion or scour downstream. Hydromodification requirements and standard flood control requirements for new development would minimize impacts of potential increased flows and volumes on downstream receiving waters. Onsite storm drain systems would likely change with the individual project components but would still utilize the existing city facilities within the public right-of way. The proposed land uses within future redevelopment areas would not result in substantial increases in surface water peaks flows or volumes over the existing conditions and would likely result in reduced discharges due to onsite water quality and LID features, such as bio-swales, silt fencing, and berms.

As noted previously, much of the Specific Plan Area is currently developed. However, where there is potential to increase storm runoff, the City of Davis would require new development or significant redevelopment projects to complete drainage and hydrology analyses to ensure that on- and off-site drainage facilities can accommodate potential increased stormwater flows. Implementation of these provisions, which would include LID design, BMPs (such as jute bails, silt fencing, covering of materials, bio-swales, etc.), and possibly on-site retention basins, would minimize increases in peak flow rates or runoff volumes. All new development or significant redevelopment project applicants would also be required to prepare a Water Quality Management Plan (WQMP) for submittal to the City that describes the BMPs and site design features that would be implemented to minimize storm runoff from the sites.

Future development in the Specific Plan Area would involve construction activities that could increase the potential for erosion and/or siltation. However, none of the future development projects would alter the course of an existing stream or river. Standard erosion control measures would be implemented as part of the SWPPP for any future project to minimize the risk of erosion or sedimentation during construction. The SWPPP must include an erosion control plan that prescribes measures such as phasing grading, limiting areas of disturbance, designating restricted-entry zones, diverting runoff from disturbed areas, outlet protection, and provisions for revegetation or mulching. The erosion control plan would also

HYDROLOGY AND WATER QUALITY

include treatment measures to trap sediment, including inlet protection, straw bale barriers, straw mulching, straw wattles, silt fencing, check dams, terracing, and siltation or sediment ponds.

The Specific Plan Area is not located within a flood zone according to the Federal Emergency Management Agency (FEMA) (FEMA 2010). Although the proposed project would increase impervious surfaces, the Specific Plan Area is not located within an area of flood risk, and future BMPs and project design features would reduce impacts from on- and off-site flooding. Therefore, impacts would be less than significant.

Significance Without Mitigation: Less than significant.

HYD-4	The proposed project would not, in a flood hazard, tsunami, or seiche zones, risk release pollutants due to project inundation.

The Specific Plan Area is not within a flood hazard zone. The Specific Plan Area is not in an area subject to seiches, mudflows, or tsunamis due to the absence of any nearby water bodies and mud/debris channels. The nearest dam, Monticello Dam, is located approximately 20 miles west of the Specific Plan Area, and the Specific Plan Area would not be at risk due to dam failure. The Specific Plan Area is not located near the ocean or any large lakes, and is therefore, not subject to seiches or tsunamis. Therefore, no impacts would occur.

Significance Without Mitigation: No impact.

HYD-5	The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

The City and UC Davis are located within the City of Davis/UC Davis Groundwater Management Plan; the goal of the Groundwater Management Plan is to maintain or enhance local groundwater quantity and quality, resulting in as reliable a groundwater supply as possible for beneficial uses and avoidance of adverse subsidence (Davis 2006). Future development under the proposed project would implement BMPs to ensure that the proposed project has a less than significant impact on surface and groundwater quality. These measures would also ensure that the proposed project would not obstruct or conflict with the implementation of a water quality control plan, sustainable groundwater management plan, or UWMP. Future development would be required to comply with water quality requirements set forth in the Statewide General Construction Permit and the NPDES, as well as the requirements in project-specific WQMPs. Therefore, the proposed project would not impede sustainable groundwater management of the basin and impacts would be less than significant.

Significance Without Mitigation: Less than significant.

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4.8.4 CUMULATIVE IMPACTS

HYD-6	The proposed project would not result in cumulatively considerable impacts to hydrology and water quality.

Construction and operation of future development in the Specific Plan Area, in conjunction with other projects within the City and Basin area, could result in increased flows that would eventually discharge into waterways. Projects would comply with their respective SWPPP and regulations for water quality standards established by the UWMP and the City. Although the Specific Plan Area is largely built-out, new projects, both individually and cumulatively, could potentially increase the volume of stormwater runoff and contribute to pollutant loads in the storm drain system with eventual discharge to waterways. However, future projects both in the Specific Plan Area and City would be required to comply with drainage and grading regulations and ordinances, such as with water quality requirements set forth in the Statewide General Permit and the NPDES, as well as the City's standard conditions of approval and regulations regarding NPDES and permitting requirements. In consideration of preceding factors, cumulative water impacts would be rendered less than cumulatively considerable.

Significance Without Mitigation: Less than significant.

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LAND USE AND PLANNING

4.9 LAND USE AND PLANNING

This chapter describes the regulatory framework and existing conditions in the Specific Plan Area related to land use and planning, analyzes the proposed project's compatibility with existing land uses and the proposed project's consistency with relevant planning documents and policies, and recommends mitigation measures to avoid or minimize the significance of potential impacts.

Land use impacts can be either direct or indirect. Direct impacts are those that result in land use incompatibilities, division of neighborhoods or communities, or interference with other land use plans. This section focuses on direct land use impacts. Indirect impacts are secondary effects resulting from land use policy implementation, such as an increase in demand for public utilities or services, or an increase in vehicle miles travelled on roadways, and are addressed in other sections of this DEIR.

4.9.1 ENVIRONMENTAL SETTING

4.9.1.1 REGULATORY FRAMEWORK

State

California Government Code section 65451 regulates the substantive and topical requirements of specific plans. A specific plan is a tool for the systematic implementation of the general plan, and establishes a link between implementing policies of the general plan and the individual development proposals in a defined (specific plan) area. A specific plan may be as general as setting forth broad policy concepts, or as detailed as providing direction on every facet of development from the type, location, and intensity of uses, to the design and capacity of infrastructure. The Downtown Davis Specific Plan is subject to this law.

Regional

Sacramento Area Council of Governments (SACOG)

SACOG is an association of local governments in the six-county Sacramento region. Its members include the counties of El Dorado, Placer, Sacramento, Sutter, Yolo, Yuba, and the 22 cities within each county, including the City of Davis. SACOG provides transportation planning and funding for the region and serves as a forum for the study and resolution of regional issues. In addition to developing the region's long-range transportation plan, SACOG is responsible for developing a methodology and distribution the regional housing needs allocation (RHNA) to each jurisdiction in the region, and assists in planning for transit, bicycle networks, clean air and airport land uses.

2020 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS)

The 2020 MTP/SCS is a long-range transportation and land use plan for the Sacramento region that proactively links land use, air quality, and transportation needs. The MTP/SCS is federally required to be updated every four years. The SACOG board adopted the 2020 MTP/SCS and accompanying documents at a special board meeting on November 18, 2019.

LAND USE AND PLANNING

Local Regulations

City of Davis General Plan

The City of Davis General Plan articulates the community's vision of its long-term physical form and development. The general plan is comprehensive in scope and represents the city's expression of quality of life and community values. General plans are prepared under a mandate from the State of California, which requires that each city and county prepare and adopt a comprehensive, long-term general plan for its jurisdiction and any adjacent related lands. State law requires general plans to address seven mandated components: circulation, conservation, housing, land use, noise, open space, and safety.

General Plan policies associated with specific environmental topics (aesthetics, air quality, biological resources, cultural resources, geology/soils, hazards, hydrology/water quality, housing, noise, parks, public services, transportation, utilities, etc.) are discussed in the relevant chapters of this EIR. General Plan policies and standards applicable to environmental issues associated with land use are summarized below.

Policy LU A.1 In infill projects, respect setback requirements, preserve existing greenbelts and greenstreets, and respect existing uses and privacy on adjacent parcels.

Policy LU A.3 Require a mix of housing types, densities, prices and rents, and designs in each new development area.

Goal LU 3 Integrate land use, economic development, environmental, and transportation planning.

Policy LU 3.1 Create an efficient system of planning and zoning.

Standards

- a. Specific plans or master site plans that indicate land use densities and intensities, building types, building variety, transit provision, bicycle and pedestrian facilities, and open space areas shall be required for major development areas.

Policy UD 1.1 Promote urban/community design which is human-scaled, comfortable, safe and conducive to pedestrian use.

Policy UD 2.2 Maintain and increase the amount of greenery, especially street trees, in Davis, both for aesthetic reasons and to provide shade, cooling, habitat, air quality benefits, and visual continuity.

Policy UD 2.3 Require an architectural "fit" with Davis' existing scale for new development projects.

Standards

- a. There should be a scale transition between intensified land uses and adjoining lower intensity land uses.

Policy UD 2.4 Create affordable and multi-family residential areas that include innovative designs and on-site open space amenities that are linked with public bicycle/pedestrian ways, neighborhood centers.

LAND USE AND PLANNING

Standards

- a. Multi-family buildings should provide easy pedestrian access to the nearest transit stop and/or neighborhood center.
- b. Multi-family development design should be compatible with adjoining single family areas.
- c. High density housing should be organized around usable common space.
- d. Multi-family housing complexes should be designed, constructed and managed in projects of no more than 150 units, not including any density bonus.

Policy UD 3.1 Use good design to promote safety for residents, employees, and visitors to the City.

Policy UD 3.2 Provide exterior lighting that enhances safety and night use in public spaces, but minimizes impacts on surrounding land uses.

Policy HOUSING 1.1: Maintain adequate sites to achieve Davis' RHNA goals for the 2021-2029 Planning Period.

Policy HOUSING 1.2: Facilitate the production of a variety of housing types that meet the housing needs of an economically and socially diverse Davis.

Policy HOUSING 1.3: Provide housing that accommodates a variety of housing needs, including for persons with disabilities, seniors, farmworkers, extremely low-income households.

Policy TRANS 1.3 (Goals 1, 2, 3, 4). Encourage higher intensity residential, commercial, and mixed- use development near existing activity centers and along corridors well served by non-motorized transportation infrastructure and public transportation.

Standard

- a. Residential and commercial developments and redevelopment projects should achieve transit-supportive densities within ¼-mile of multi-modal corridors. Such densities would consist of ten (10) units per acre or greater, if compatible with neighborhood context.

Policy TRANS 1.7 (Goal: 2). Promote the use of electric vehicles and other low-polluting vehicles, including Neighborhood Electric Vehicles (NEV).

Standard

- a. New development shall include infrastructure for electric vehicles consistent with the future growth in the number of electric vehicles.

Policy TRANS 3.1 (Goals 1, 2). Facilitate the provision of convenient, reliable, safe, and attractive fixed route, commuter, and demand responsive public transportation that meets the needs of the Davis community, including exploring innovative methods to meet specialized transportation needs.

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Standard

- a. Provide convenient public transportation service within 1/8 mile of “activity centers” and within ¼ mile of medium- high density housing. Particular emphasis shall be given to activity centers frequently used by high numbers of persons dependent on public transportation.

Policy TRANS 3.3 (Goals: 1,2). Require new development to be designed to maximize transit potential.

Core Area Specific Plan

The Core Area Specific Plan was adopted by the City of Davis in 1996 for the downtown Core Area and adjacent areas. Its purpose was to provide a comprehensive set of policies, guidelines and implementation strategies for promoting, guiding, and regulating growth in the Core Area. The intent of the Core Area Specific Plan was to allow the area to continue to function as the City’s social, cultural, retail center, and professional and administrative office district in a manner that enhanced pedestrian activity. The Core Area Specific Plan established the strategies which were required for the systematic execution of the City’s General Plan for the area covered by the Core Area Specific Plan. It envisioned an increase of approximately 186,000 square feet of retail space and an increase of 125,000 square feet of office space in the Core Area for a total of 662,000 square feet of retail space and 432,000 square feet of office space. There would be a modest increase of residential units in the Core Area from 506 units to 681 units. The Core Area Specific Plan would be updated and replaced by the proposed project, the Downtown Davis Specific Plan.

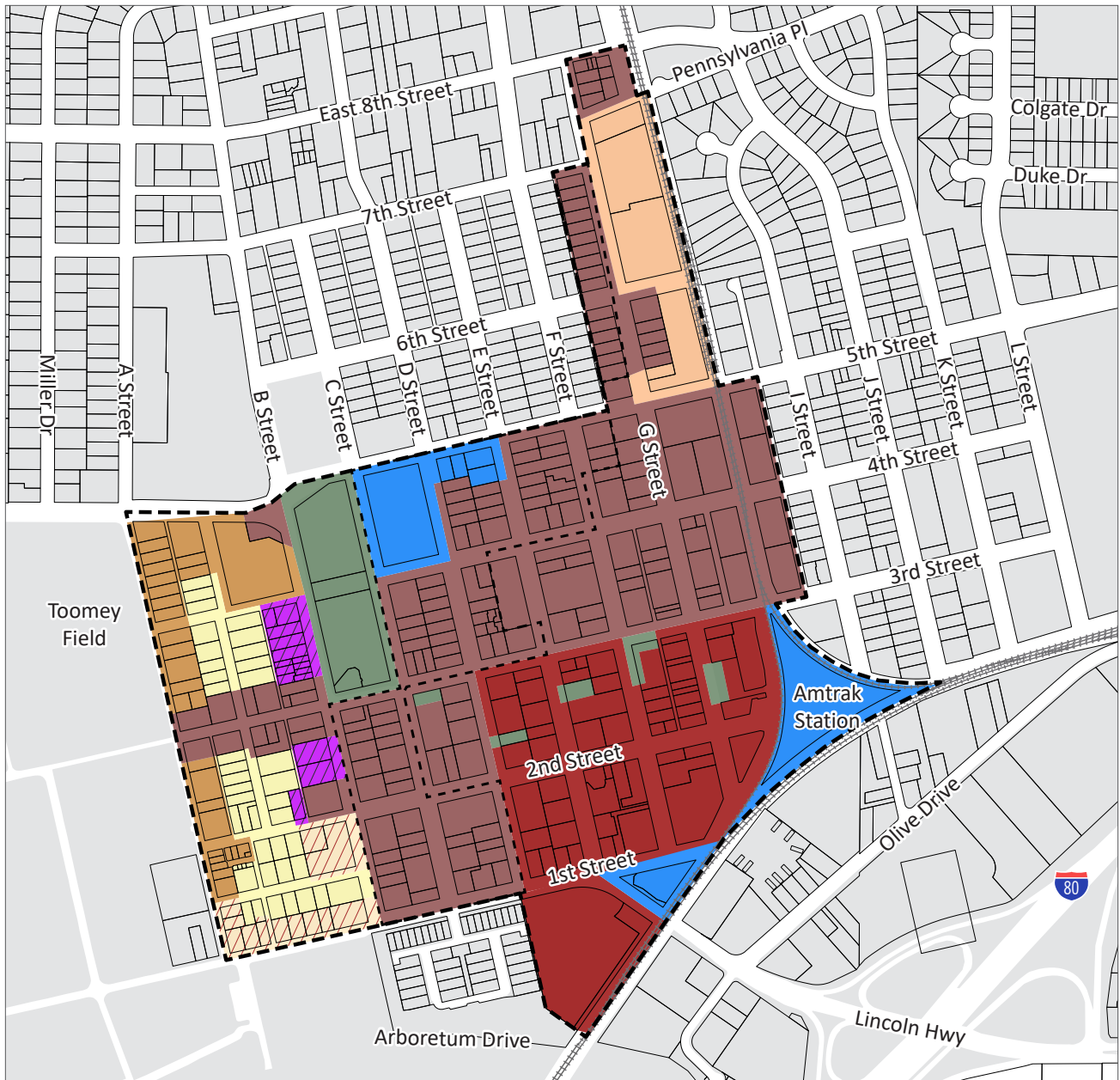
City of Davis Zoning Code

The City of Davis Zoning Code is a detailed plan for the use of land in the city based on the general plan, and is enacted in order to promote the public health, safety, morals, comfort and general welfare throughout the city.

4.9.1.2 EXISTING CONDITIONS

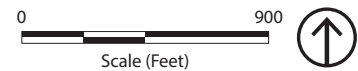
The Downtown Davis Specific Plan Area covers a 32-block area of approximately 132 acres and is currently largely built out and developed with a variety of uses, such as public and semi-public uses, parks and plazas, retail, office, service commercial, residential uses, and the five-acre Central Park as shown in Figure 4.9-1, *Existing Land Uses*. Retail and mixed-use buildings are located along Third Street and in the blocks east of D Street. There are residential uses west of B Street and in the blocks directly east of Central Park. A portion of the Specific Plan Area boundary extends east of the Amtrak railroad; uses surrounding the Plan Area are predominantly residential, as well as civic and institutional uses.

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Legend

● Public/Semi Public	● B Street Transitional District	— — Transitional Boundary
● Parks and Plazas	● University Avenue Residential Overlay District	— — Specific Plan Boundary
● Retail with Offices	● First Street Transitional District	
● Retail with Stores	— — Transitional Boundary	
● Service Commercial	— — Specific Plan Boundary	
● Residential Low Density		



Source: Opticos, 2019

Figure 4.9-1
Existing Land Uses

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4.9.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact on land use and planning if it would:

1. Physically divide an established community.
2. 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.

4.9.3 IMPACT DISCUSSION

LU-1	Implementation of the proposed project would not physically divide an established community.

The Downtown Davis Specific Plan Area is currently built out and developed with a variety of uses, such as public and semi-public uses, parks and plazas, retail, office, service commercial, residential uses, and the five-acre Central Park. The proposed project would encourage infill and redevelopment of the area with goals to increase housing access and choice and provide a safe, connected multimodal network for the area. In addition, the Downtown Code was developed to ensure that future development in the Specific Plan Area would provide a high-quality public realm that complements existing development, thus increasing connectivity between uses. Given the Specific Plan Area's built out nature and pedestrian focus in the Specific Plan and Downtown Code, the proposed project would not physically divide an established community.

Significance Without Mitigation: Less than significant.

LU-2	Implementation of the proposed project would not 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.

The MTP/SCS does not require that local general plans, specific plans, or zoning be consistent with the RTP/SCS, but provides incentives for consistency to governments and developers. The Specific Plan would be expected to result in a net increase in retail, commercial, office, and institutional space and up to 1,000 housing units, which would increase population and employment opportunities in the Specific Plan Area. As discussed in section 4.11 of this DEIR, the overall jobs-housing ratio for the City without the implementation of the Specific Plan is projected at 0.70 jobs per housing unit for buildout year 2036, which is considered jobs poor. While this ratio is below the recommended range of 1.5 to 1.7, the City would trend towards reaching the recommended range, as the existing jobs-housing ratio is 0.65 for the City as a whole. As discussed in section 4.11, implementation of the Downtown Davis Specific Plan would facilitate up to 1,000 new dwelling units and 1,501 new jobs, which would increase the jobs-housing ratio to a slightly more favorable ratio of 1.31. In general, an improved jobs-housing balance for the City overall could contribute in reducing the average distance traveled between where people live and work, and therefore reduce passenger VMT. Furthermore, the Specific Plan is within a designated SACOG High

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Frequency Transit Area (HFTA) and transit priority area. Thus, the development of new housing and creation of new jobs would be consistent with the 2020 MTP/SCS in concentrating new housing and new jobs in these designated areas and creating compact communities.

While the proposed project would result in amendments to the General Plan and the Davis Municipal Code, and would replace the Core Area Specific Plan, the proposed project would not affect areas of the City outside of the proposed Specific Plan Area. In addition, the amendments would not eliminate any policies or regulations intended to reduce physical environmental effects. The primary intent of the proposed Downtown Code is to create a clear hierarchy in the downtown's built form, transportation system, and open spaces, reflecting the role and intensity of uses in different parts of the Specific Plan Area. The proposed Specific Plan would consolidate existing land use designations in the Specific Plan Area, which are broadly characterized as either residential or non-residential and are largely established to give policy direction for the proposed zoning and standards. Implementation of the proposed Specific Plan and Downtown Code would ensure future development meets the needs of each neighborhood and the Specific Plan Area as a whole, and preserves existing cultural qualities and resources. Consequently, the proposed project would result in the continued protection of cultural resources, reductions in vehicle miles traveled and greenhouse gas emissions by encouraging housing in the area, and providing a multimodal transportation network and pedestrian scale development.

Further, the proposed project would be consistent with and supportive of the land use, urban design, housing, and transportation policies in the General Plan. The proposed project is intended to encourage infill development with a variety of housing types and densities, with setbacks to ensure a pedestrian friendly environment, consistent with Policies LU A.1, LU A.3, LU 3.1, and UD 1.1. The Specific Plan includes, as part of the Sustainability Strategies, provisions for shade trees to reduce energy demand and reduce the heat island effect, consistent with Policy UD 2.2. The Downtown Code provides for areas of greater development intensity in the vicinity of the Amtrak station and reduced development intensity transitioning to residential areas farther from the station, consistent with Policies UD 2.3, UD 2.4, TRANS 1.3, TRANS 3.1 and TRANS 3.3. Furthermore, standards in the Downtown Code take into account the specific context and adjacency to historic resources and residential areas to ensure appropriate massing and scale for new development. Required pedestrian elements and common spaces are also consistent with Policy UD 2.4. The variety in residential types and sizes would provide housing opportunities for rental and owner-occupied housing for economically and socially diverse residents, consistent with Policies Housing 1.1, 1.2, 1.3, and 1.4. Therefore, the proposed project would not 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.

Significance Without Mitigation: Less than significant.

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4.9.4 CUMULATIVE IMPACTS

LU-3	Implementation of the proposed project would not result in a cumulatively considerable impact to land use and planning.

The land use analysis considers buildout of the Specific Plan Area in the context of the City's General Plan. Therefore, the analysis is inherently cumulative, and no further analysis is required. The proposed project would not result in a cumulatively considerable impact to land use and planning.

Significance Without Mitigation: No Impact.

4.10 NOISE

This chapter describes the potential impacts associated with the adoption and implementation of the proposed project that are related to noise and vibration. A summary of the relevant regulatory framework and existing conditions is followed by a discussion of potential impacts and cumulative impacts related to implementation of the proposed project. Noise monitoring and modeling data are included as Appendix 4.10, Noise Data, of this Draft Environmental Impact Report (EIR).

4.10.1 ENVIRONMENTAL SETTING

4.10.1.1 TERMINOLOGY

The following are definitions for terms used throughout this chapter.

- **Sound.** A disturbance created by a vibrating object, which when transmitted by pressure waves through a medium such as air, is capable of being detected by the human ear.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A measure of sound on a logarithmic scale.
- **A Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- **Equivalent Continuous Noise Level (L_{eq}).** The mean of the noise level, energy averaged over the measurement period.
- **L_{max} .** The maximum noise level during a measurement period.
- **Statistical Sound Level (L_n).** The sound level that is exceeded “n” percent of time during a given sample period. For example, the L_{50} level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period). This is also called the “median sound level.” The L_{10} level, likewise, is the value that is exceeded 10 percent of the time (i.e., near the maximum) and this is often known as the “intrusive sound level.” The L_{90} is the sound level exceeded 90 percent of the time and is often considered the “effective background level” or “residual noise level.”
- **Day-Night Sound Level (L_{dn} or DNL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the sound levels occurring during the period from 10:00 pm to 7:00 am.
- **Community Noise Equivalent Level (CNEL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the levels occurring during the period from 7:00 pm to 10:00 pm and 10 dB added to the sound levels occurring during the period from 10:00 pm to 7:00 am. Note: For general community/environmental noise, CNEL and L_{dn} values rarely differ by more than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered equivalent/interchangeable.

NOISE

- **Peak Particle Velocity (PPV).** The peak rate of speed at which soil particles move (e.g., inches per second or in/sec) due to ground vibration.
- **Vibration Decibel (VdB).** A unitless measure of vibration, expressed on a logarithmic scale and with respect to a defined reference vibration velocity. In the United States, the standard reference velocity is 1 micro-inch per second (1×10^{-6} in/sec).
- **Sensitive Receptor.** Noise- and vibration-sensitive receptors include land uses where quiet environments are necessary for enjoyment and public health and safety. Residences, schools, motels and hotels, libraries, religious institutions, hospitals, and nursing homes are examples.

4.10.1.2 SOUND FUNDAMENTALS

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in Hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the loudness of sound is the decibel (dB). Changes of 1 to 3 dBA are detectable under quiet, controlled conditions and changes of less than 1 dBA are usually indiscernible. A 3 dBA change in noise levels is considered the minimum change that is detectable with human hearing in outside environments. A change of 5 dBA is readily discernable to most people in an exterior environment whereas a 10 dBA change is perceived as a doubling (or halving) of the sound.

The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all and are “felt” more as a vibration. Similarly, while people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly above about 10,000 Hz and below about 200 Hz. Since the human ear is not equally sensitive to sound at all frequencies, a special frequency dependent rating scale is usually used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by weighting frequencies in a manner approximating the sensitivity of the human ear.

Noise is defined as unwanted sound and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Based on these known adverse effects, the federal government, the State of California, and many local governments have established criteria to protect public health and safety and to prevent disruption of certain human activities.

Sound Measurement

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. On a logarithmic scale, an increase of 10 dBA is 10 times more intense than 1 dBA, 20 dBA is 100 times more intense, and 30 dBA is 1,000 times more intense. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. This phenomenon is known as “spreading loss.” For a single point source, sound levels decrease by approximately 6 dB for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by on-site operations from stationary equipment or activity at a project site. If noise is produced by a line source, such as highway traffic, the sound decreases by 3 dBA for each doubling of distance in a hard site environment. Line source noise in a relatively flat environment with absorptive vegetation decreases by 4.5 dBA for each doubling of distance.

Time variation in noise exposure is typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called L_{eq}), or alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. For example, the L_{50} noise level represents the noise level that is exceeded 50 percent of the time. Half the time the noise level exceeds this level and half the time the noise level is less than this level. This level is also representative of the level that is exceeded 30 minutes in an hour. Similarly, the L_2 , L_8 and L_{25} values represent the noise levels that are exceeded 2, 8, and 25 percent of the time, or 1, 5, and 15 minutes per hour. These “ L_n ” values are typically used to demonstrate compliance for stationary noise sources with a city’s noise ordinance, as discussed below. Other values typically noted during a noise survey are the L_{min} and L_{max} . These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law and the City require that, for planning purposes, an artificial dBA increment be added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL) or Day-Night Noise Level (L_{dn}). The CNEL descriptor requires that an artificial increment of 5 dBA be added to the actual noise level for the hours from 7:00 p.m. to 10:00 p.m. and 10 dBA for the hours from 10:00 p.m. to 7:00 a.m. The L_{dn} descriptor uses the same methodology except that there is no artificial increment added to the hours between 7:00 pm and 10:00 pm. Both descriptors give roughly the same 24-hour level (i.e., typically within 1 dBA of each other), with the CNEL being only slightly more restrictive (i.e., higher); therefore, they are used interchangeably in this assessment.

Psychological and Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects our entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions and thereby affecting blood pressure, the heart, and the nervous system. Extended periods of noise exposure above 90 dBA can result in permanent hearing damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation becomes painful. This is called the threshold of pain. Table 4.10-1 shows typical noise levels from familiar noise sources.

NOISE

TABLE 4.10-1 TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Onset of physical discomfort	120+	
	110	Rock Band (near amplification system)
Jet Flyover at 1,000 feet	100	
Gas Lawn Mower at three feet	90	
Diesel Truck at 50 feet, at 50 mph	80	Food Blender at 3 feet Garbage Disposal at 3 feet
Noisy Urban Area, Daytime	70	Vacuum Cleaner at 10 feet Normal speech at 3 feet
Commercial Area	60	
Heavy Traffic at 300 feet	50	Large Business Office Dishwasher Next Room
Quiet Urban Daytime	40	Theater, Large Conference Room (background)
Quiet Urban Nighttime	30	Library
Quiet Suburban Nighttime	20	Bedroom at Night, Concert Hall (background)
Quiet Rural Nighttime	10	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: Caltrans 2013a

4.10.1.3 VIBRATION FUNDAMENTALS

Vibration is an oscillating motion. Like noise, vibration is transmitted in waves, but through earth or solid objects. Unlike noise, vibration is typically felt rather than heard.

Vibration can be either natural—e.g., from earthquakes, volcanic eruptions, landslides—or human-made, such as from explosions, heavy machinery, or trains. Both natural and human-made vibration may be continuous, such as from operating machinery, or impulsive, as from an explosion.

As with noise, vibration can be described by both its amplitude and frequency. Amplitude can be characterized in three ways—displacement, velocity, and acceleration. Particle displacement is a measure of the distance that a vibrated particle travels from its original position. Particle velocity is the rate of speed at which the particles move in inches per second (in/sec) or millimeters per second. Table 4.10-2 presents the human reaction to various levels of PPV.

TABLE 4.10-2 HUMAN REACTION TO TYPICAL VIBRATION LEVELS

Vibration Level Peak Particle Velocity (in/sec)	Vibration Damage	Vibration Annoyance
0.006–0.019	Vibrations unlikely to cause damage of any type	Threshold of perception, possibility of intrusion
0.08	Recommended upper level of vibration to which ruins and ancient monuments should be subjected	Vibrations readily perceptible
0.10	Virtually no risk of “architectural” (i.e., not structural) damage to normal buildings	Level at which continuous vibration begins to annoy people
0.20	Threshold at which there is a risk to “architectural” damage to normal dwelling, i.e., houses with plastered walls and ceilings	Vibrations annoying to people in buildings
0.4–0.6	Vibrations at a greater level than normally expected from traffic, but would cause “architectural” damage and possibly minor structural damage	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges

Source: Caltrans 2013b

In addition to PPVs, vibrations also vary in frequency, and this affects perception. Typical construction vibrations fall in the 10 to 30 Hz range and usually occur around 15 Hz. Traffic vibrations exhibit a similar range of frequencies; however, due to their suspension systems, buses often generate frequencies around 3 Hz at high vehicle speeds. It is less common, but possible, to measure traffic frequencies above 30 Hz.

For vibration annoyance from operational sources, vibration is measured in vibration decibels or VdB. A measurement of 65 VdB would result in an impact to highly sensitive uses with vibration-sensitive equipment (e.g., microscopes in hospitals and research facilities) and a measurement of 72 VdB would result in an impact to residential uses.

4.10.1.4 REGULATORY FRAMEWORK

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, and local governments have established standards and ordinances to control noise.

Federal Occupational Health and Safety Administration

The federal government regulates occupational noise exposure common in the workplace through the Occupational Safety and Health Administration under the USEPA. Such limitations would apply to the operation of construction equipment and could also apply to any proposed industrial land uses. Noise exposure of this type is dependent on work conditions and is addressed through a facility’s Health and Safety Plan and is, therefore, not addressed further in this analysis.

United States Department of Housing and Urban Development

The United States Department of Housing and Urban Development (HUD) has set a goal of 65 dBA L_{dn} as a desirable maximum exterior standard for residential units developed under HUD funding. (This level is also generally accepted by the State of California.) While HUD does not specify acceptable interior noise levels,

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standard construction of residential dwellings typically provides more than 20 dBA of attenuation with the windows closed. Based on this premise, the interior L_{dn} should not exceed 45 dBA.

Highway Administration

Proposed federal or federal-aid highway construction projects at a new location, or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes, requires an assessment of noise and consideration of noise abatement pursuant to Code of Federal Regulations Title 23, Part 772, “Procedures for Abatement of Highway Traffic Noise and Construction Noise.” The Federal Highway Administration (FHWA) has adopted noise abatement criteria (NAC) for sensitive receivers such as picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals—when “worst-hour” noise levels approach or exceed 67 dBA L_{eq} . The California Department of Transportation (Caltrans) has further defined “approaching” the NAC to be 1 dBA below the NAC for noise sensitive receivers (e.g., 66 dBA L_{eq} is considered approaching the NAC) (Caltrans 2020).

United States Environmental Protection Agency

In addition to FHWA standards, the United States Environmental Protection Agency (USEPA) has identified the relationship between noise levels and human response. The USEPA has determined that over a 24-hour period, an L_{eq} of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at an L_{eq} of 55 dBA and interior levels at or below 45 dBA. While these levels are relevant for planning and design and useful for informational purposes, they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community; therefore, they are not mandated.

The USEPA has also set 55 dBA L_{dn} as the basic goal for exterior residential noise intrusion. However, other federal agencies, in consideration of their own program requirements and goals—as well as the difficulty of achieving a goal of 55 dBA L_{dn} —have settled on 65 dBA L_{dn} as their standard. At 65 dBA L_{dn} , activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

Aircraft Noise Standards

The Federal Aviation Administration Advisory Circular Number 150 5020 2, “Noise Assessment Guidelines for New Helicopters,” recommends the use of a cumulative noise measure, the 24-hour equivalent sound level, or $L_{eq}(24)$, so that the relative contributions of the heliport and other sound sources in the community can be compared. The $L_{eq}(24)$ is similar to the L_{dn} used in assessing the impacts of fixed-wing aircraft. The helicopter $L_{eq}(24)$ values are obtained by logarithmically adding the sound exposure level values over a 24-hour period.

Public Law 96 193 also directs the Federal Aviation Administration to identify land uses that are “normally compatible” with various levels of noise from aircraft operations. Because of the size and complexity of many major hub airports and their operations, Federal Aviation Regulation Part 150 identifies a large number of land uses and their attendant noise levels.

State Regulations

General Plan Guidelines

The State of California, through its general plan guidelines, discusses how ambient noise should influence land use and development decisions and includes a table of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable uses at different noise levels, expressed in CNEL. A conditionally acceptable designation implies new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use and needed noise insulation features are incorporated in the design. By comparison, a normally acceptable designation indicates that standard construction can occur with no special noise reduction requirements. The general plan guidelines provide cities with recommended community noise and land use compatibility standards that can be adopted or modified at the local level based on conditions and types of land uses specific to that jurisdiction.

California Building Code

The California Building Code is Title 24 of the California Code of Regulations. California Building Code Part 2, Volume 1, Chapter 12, Section 1207.11.2, Allowable Interior Noise Levels, requires that interior noise levels attributable to exterior sources not exceed 45 dB in any habitable room. The noise metric is evaluated as either the L_{dn} or the CNEL, consistent with the noise element of the local general plan. The City regularly adopts updates to the California Building Code in the Davis Municipal Code (DMC) under Chapter 8, Section 8.01.010, Adoption by Reference of the California Building Standards Code.

California Building Code: California Green Building Standards Code

The State of California's noise insulation standards for nonresidential uses are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 11, California Green Building Standards Code. The California Green Building Standards Code noise standards are applied to new or renovation construction projects in California to control interior noise levels resulting from exterior noise sources. Proposed projects may use either the prescriptive method (Section 5.507.4.1) or the performance method (Section 5.507.4.2) to show compliance. Under the prescriptive method, a project must demonstrate transmission loss ratings for the wall and roof-ceiling assemblies and exterior windows when located within a noise environment of 65 dBA CNEL or higher. Under the performance method, a project must demonstrate that interior noise levels do not exceed 50 dBA $L_{eq(1hr)}$.

Airport Noise Standards

California Code of Regulations Title 21, Subchapter 6, Airport Noise Standards, establishes 65 dBA CNEL as the acceptable exterior level of aircraft noise for persons living in the vicinity of airports. Noise-sensitive land uses in locations where the aircraft exterior noise level exceeds 65 dBA CNEL are generally incompatible, unless an aviation easement for aircraft noise has been acquired by the airport proprietor, or the residence is a high-rise with an interior CNEL of 45 dBA or less in all habitable rooms and an air circulation or air conditioning system, as appropriate. Assembly Bill (AB) 2776 requires any person who

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intends to sell or lease residential properties in an airport influence area to disclose that fact to the person buying the property.

Local Regulations

City of Davis General Plan

The City of Davis Noise Element aims to limit the exposure of the community to excessive noise levels by guiding decisions concerning land use and location of new roads and transportation facilities. The City's land use compatibility standards shown in Figure 4.10-1 provide planners with a tool to gauge the compatibility of land uses relative to existing and future noise levels. The following goals and policies are relevant to the proposed project:

Goal NOISE 1. Maintain community noise levels that meet health guidelines and allow for a high quality of life.

Policy NOISE 1.1 Minimize vehicular and stationary noise sources, and noise emanating from temporary activities.

Actions

m. The project proponent shall employ noise-reducing construction practices. The following measures shall be incorporated into contract specifications to reduce the impact of construction noise:

- All equipment shall have sound-control devices no less effective than those provided on the original equipment. No equipment shall have an unmuffled exhaust.
- As directed by the City, the contractor shall implement appropriate additional noise mitigation measures including, but not limited to, changing the location of stationary construction equipment, shutting off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, or installing acoustic barriers around stationary construction noise sources.

Policy NOISE 1.2 Discourage the use of sound walls whenever alternative mitigation measures are feasible, while also facilitating the construction of sound walls where desired by the neighborhood and there is no other way to reduce noise to acceptable exterior levels shown in Table 4-10.1.

Goal NOISE 2. Provide for indoor noise environments that are conducive to living and working.

Policy NOISE 2.1 Take all technically feasible steps to ensure that interior noise levels can be maintained at 45 dBA for residences, schools through grade 12, hospitals and churches, and 55 dBA for offices.

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STANDARDS FOR EXTERIOR NOISE EXPOSURE

USE	COMMUNITY NOISE EXPOSURE L _{dn} or CNEL, dBA			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential	Under 60	60-70*	70-75	Above 75
Transient Lodging - Motels, Hotels	Under 60	60-75	75-80	Above 80
Schools, Libraries, Churches, Hospitals, Nursing Homes	Under 60	60-70	70-80	Above 80
Auditoriums, Concert Halls, Amphitheaters	Under 50	50-70	NA	Above 70
Sports Arenas, Outdoor Spectator Sports	NA	Under 75	NA	Above 75
Playgrounds, Neighborhood Parks	Under 70	NA	70-75	Above 75
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Under 70	NA	70-80	Above 80
Office Buildings, Business Commercial and Professional	Under 65	65-75	Above 75	NA
Industrial, Manufacturing, Utilities, Agriculture	Under 65	70-80	Above 80	NA

NORMALLY ACCEPTABLE: Specified land use is satisfactory assuming all buildings involved are of conventional construction, without special noise insulation requirements.

CONDITIONALLY ACCEPTABLE: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is conducted, and needed noise attenuation features are included in the construction or development.

NORMALLY UNACCEPTABLE: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be conducted and needed noise attenuation features shall be included in the construction or development.

CLEARLY UNACCEPTABLE: New construction or development shall not be undertaken.

NA: Not applicable.

* The City Council shall have discretion within the “conditionally acceptable” range for residential use to allow noise levels in outdoor spaces to go up to 65 dBA if cost effective or aesthetically acceptable measures are not available to reduce noise levels in outdoor use spaces to the “normally acceptable” levels. Outdoor spaces which are designed for visual use only (for example, streetside landscaping in an apartment project), rather than outdoor use space, may be considered acceptable up to 70 dBA.

Source: Davis General Plan Section VII: Community Safety May 2001/ Amended Through January 2007.

Figure 4.10-1

City of Davis Noise and Land Use Compatability Standards

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City of Davis Municipal Code

Section 24.02.020, *Noise Limits*, of the City of Davis Municipal Code sets exterior noise limits, which are shown in Table 4.10-3. The applicable land use and time period is based on the affected property's land use, and decibel levels are measured at the property plane of the affected property, at the point closest to the noise source.

TABLE 4.10-3 MAXIMUM ALLOWABLE EXTERIOR NOISE LEVELS (dBA)

Category	Daytime	Nighttime
Residential ¹	7:00 am to 9:00 pm 55	9:00 pm to 7:00 am 50
Commercial/industrial/core commercial ^{2,3}	7:00 am to 10:00 pm 60	10:00 pm to 7:00 am 55
High noise traffic corridor ⁴	Anytime 65	Anytime 65

Notes:

The provisions of this subsection do not apply to sound generated upon a common use portion of any multiple-family dwelling between the hours of 9:00 am through 10:00 pm, Sunday through Thursday, and 9:00 am through 12:30 am the following day, Friday and Saturday, except to the extent that such sound is audible within any dwelling unit not located upon the same property.

1. "Residential" noise zone is defined as any parcel with a single-family or multifamily dwelling, including living groups, excluding those in the core commercial area.

2. "Commercial and Industrial" noise zone is defined as all nonresidential properties (retail shopping, office, highway/service commercial, light industrial/business park, industrial, public/semipublic, commercial/ agricultural buffer, commercial recreation, agriculture, urban reserve).

3. "Core commercial" noise zone is defined as all property types in the core commercial area beginning at southwest corner of 5th Street and the railroad tracks; railroad tracks south to D Street, north on D Street, east on 4th Street, north on F Street, east on 5th Street to railroad tracks. See Figure 4.10-2, *Core Commercial Area Map*. The core commercial area overlaps a significant portion of the Specific Plan Area.

4. "High noise traffic corridors" noise zone is defined as properties bordering (wholly or partially) designated high noise corridors within one hundred feet. Noise traffic corridors include Highway 113 and Interstate 80.

Source: Davis Municipal Code, Section 24.02.020, *Noise Limits*.

Under Section 24.02.030, *Maximum Noise Limit*, no person shall produce, suffer, or allow to be produced in any location a noise level more than 20 dBA above the noise limits summarized in Table 4.10-3, but not greater than 80 dBA measured at the property plane. This is also known as L_{max} noise level.

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Source: Nearmap, 2021; Davis Municipal Code 24.02.020

Figure 4.10-2
Core Commercial Area Map

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Construction

Section 24.02.40, Special Provisions, limits construction and landscape maintenance equipment to the hours of 7:00 am to 7:00 pm Monday through Friday and 8:00 am to 8:00 pm Saturdays and Sundays provided at least one of the following limitations is met:

- The noise level does not exceed 83 dBA at a distance of 25 feet.
- The noise level at any point outside of the property plane of the project shall not exceed 86 dBA.
- Impact tools and equipment are exempt from the above noise limitations provided that they 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 are also 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 or 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 6:00 am on weekdays from June 15th until September 1st. No percussion type tools (such as ramsets or jackhammers) can be used before 7:00 am. The permit shall be revoked if any noise complaint is received by the police department.
- No individual powered blower shall produce a noise level exceeding 70 dBA measured at a distance of 50 feet.
- No powered blower shall be operated within a 100-foot radius of another powered blower simultaneously.
- On single-family residential property, the 70 dBA at 50 feet restriction shall not apply if operated for less than ten minutes per occurrence.

Several exemptions are provided in Section 24.02.040: Air conditioners, pool pumps and similar equipment are exempt from these restrictions, provided they are in good working order; Work performed by the City, City franchises, or persons under contract with the City for repairs or maintenance of roads, water wells, water service lines, trees and landscape, as well as street sweeping, garbage removal, and similar activities; Aural warning devices which are required by law to protect the health, safety and welfare of the community; and Emergencies.

4.10.1.5 EXISTING CONDITIONS

Sensitive Receptors

Certain land uses, such as residences, senior housing, schools, places of worship, recreational areas, and hospitals, are particularly sensitive to noise and vibration and are considered sensitive receptors. These uses are regarded as sensitive because they are where citizens most frequently engage in activities that are likely to be disturbed by noise, such as reading, studying, sleeping, resting, or otherwise engaging in quiet or passive recreation. Commercial and industrial uses generally are not particularly sensitive to noise or vibration.

Ambient Noise Measurement

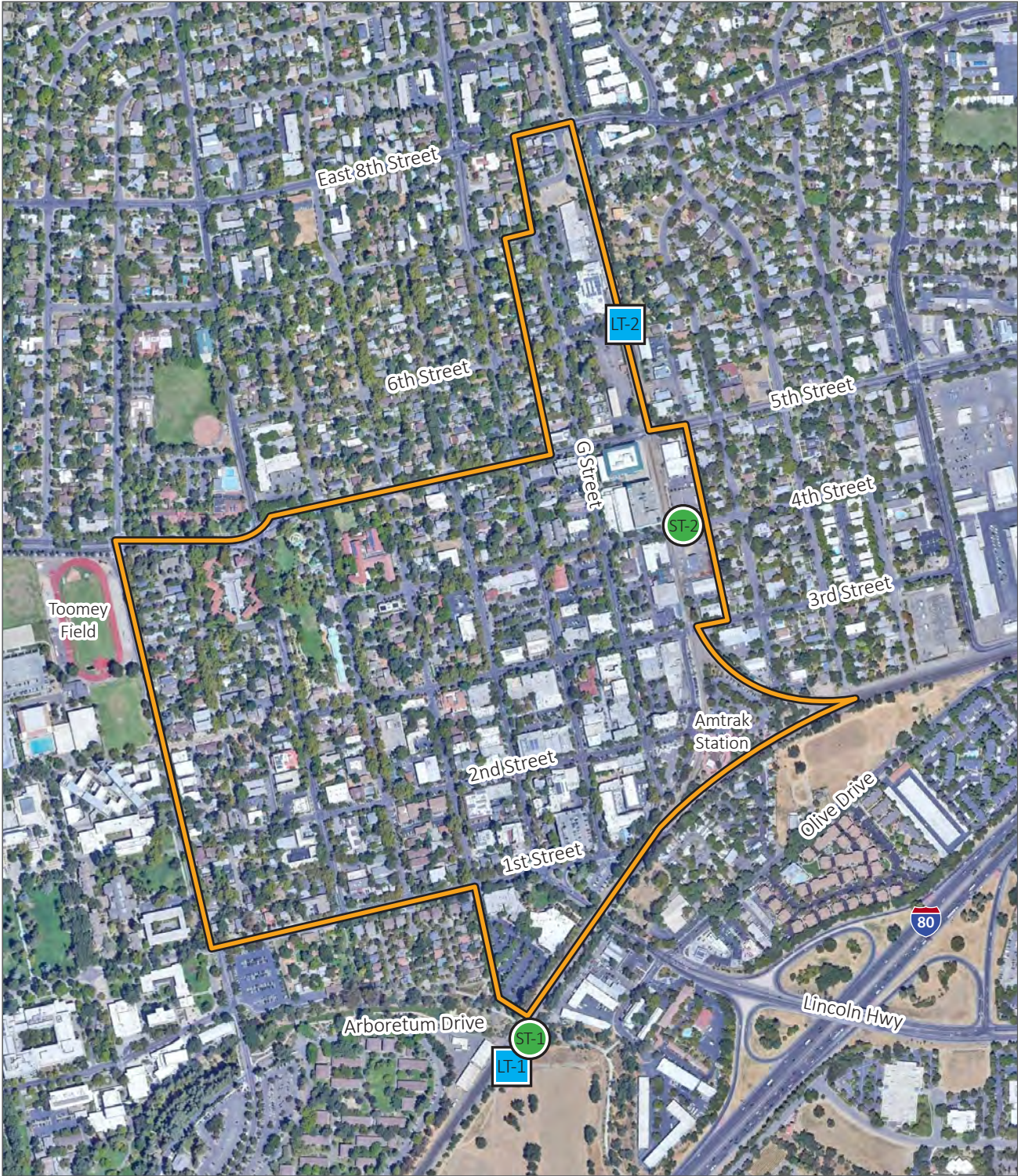
Ambient noise monitoring was conducted in the Specific Plan Area by PlaceWorks in June 2021 to determine a baseline noise level at different environments. Measurements were focused on areas near active rail lines in the Plan Area and would provide conservative measurements compared to locations in the project area farther away from the rail lines. Long-term (24-hour) measurements were conducted at two locations, and short-term measurements were conducted at two locations. All measurements were conducted from Tuesday, June 22, through Wednesday, June 23, 2021.

Meteorological conditions during the measurement periods were favorable for outdoor sound measurements and were noted to be representative of the typical conditions for the season. All sound level meters were equipped with a windscreen during measurements. All sound level meters used for noise monitoring satisfy the American National Standards Institute standard for Type 1 instrumentation. Monitoring of ambient noise was performed using Larson-Davis Model LxT and 820 sound level meters. The sound level meters were set to “slow” response and “A” weighting (dBA). The meters were calibrated prior to and after the monitoring period. All measurements were at least 5 feet above the ground and away from reflective surfaces. Noise measurement locations are described below and shown in Figure 4.10-3.

The noise monitoring locations are described below:

- **Long-Term Location 1 (LT-1)** was located adjacent to the Union Pacific (UP) railroad at the Arboretum Drive crossing. The measurement location was approximately 50 feet southeast of the UP eastbound centerline. A 24-hour noise measurement was conducted, beginning at the 1:00 p.m. hour on Tuesday, June 22, 2021. The noise environment of this site is characterized primarily by freight and Amtrak train pass-bys and distant traffic on I-80.
- **Long-Term Location 2 (LT-2)** was located adjacent to the California Northern Railroad (CFNR) switching line at the end of 6th Street. The measurement location was approximately 35 feet from the main track centerline. A 24-hour noise measurement was conducted, beginning at the 2:00 p.m. hour on Tuesday, June 22, 2021. The noise environment of this site is characterized primarily by minimal switching train traffic and activity at the nearby grocery store.
- **Short-Term Location 1 (ST-1)** was located adjacent to the UP railroad at the Arboretum Drive crossing. The measurement location was approximately 50 feet southeast of the UP eastbound centerline. Two freight train pass-bys and two Amtrak pass-bys were measured beginning at 11:14 a.m. on Wednesday, June 23, 2021. In addition, a 12-minute ambient noise measurement was conducted, beginning at 11:26 a.m. The noise environment of this site is characterized primarily by freight and Amtrak train pass-bys and distant traffic on I-80. Train warning horns were observed at this crossing.
- **Short-Term Location 2 (ST-2)** was located adjacent to the CFNR switching line at the 4th Street crossing. One switcher train pass-by was measured beginning at 8:49 a.m. on Wednesday, June 23, 2021. In addition, a 15-minute ambient noise measurement was conducted, beginning at 7:01 a.m. The noise environment of this site is characterized primarily by minimal switching train traffic and local roadway traffic on 4th Street.

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Source: © 2021 Google, Image date: 8/11/2019. PlaceWorks, 2021.

-  Specific Plan Boundary
-  ST = Short-term Measurement Location
-  LT = Long-term Measurement Location



Figure 4.10-3
Approximate Noise Monitoring Locations

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Ambient Noise Results, Long-Term Monitoring

During the ambient noise survey, the CNEL noise levels at monitoring locations ranged from 66 to 79 dBA CNEL. The long-term noise measurement results are summarized in Table 4.10-4. A summary of the daily trend of long-term noise measurement results are shown in Appendix 4.10, Noise Data, of this Draft EIR.

TABLE 4.10-4 LONG-TERM NOISE MEASUREMENT SUMMARY (DBA)

Monitoring Location	Description	CNEL	Lowest L_{eq} , 1-Hour	Highest L_{eq} , 1-Hour
LT-1	UP Arboretum Drive Crossing	79	55.0	78.9
LT-2	CFNR 6th Street Dead End	66	45.6	74.6

Source: PlaceWorks 2021.

Short-Term Noise Monitoring Results

The short-term noise measurement results are summarized in Table 4.10-5.

TABLE 4.10-5 SHORT-TERM NOISE MEASUREMENT SUMMARY (DBA)

Monitoring Location	Description	Noise Level, dBA		
		L_{eq}	L_{max}	SEL
ST-1a	UP Arboretum Drive Crossing Ambient (12 minutes), 11:26 a.m., 6/23/21	51.5	57.1	80.3
ST-1b	UP Arboretum Drive Crossing Amtrak westbound (1 locomotive, 4 cars) 11:14 a.m., 6/23/21	93.2	107.0	110.0
ST-1c	UP Arboretum Drive Crossing Freight eastbound (2 locomotives, 9 cars) 11:19 a.m., 6/23/21	89.0	102.1	105.8
ST-1d	UP Arboretum Drive Crossing Amtrak eastbound (1 locomotive, 4 cars) 11:40 a.m., 6/23/21	84.3	96.8	99.9
ST-1e	UP Arboretum Drive Crossing Freight westbound (2 locomotives, no cars) 11:45 a.m., 6/23/21	101.1	111.4	115.0
ST-2a	CFNR 4 th Street Crossing Ambient (15 minutes), 7:01 a.m., 6/23/21	55.1	73.1	84.5
ST-2b	CFNR 4 th Street Crossing Switching train (1 locomotive, no cars) 8:49 a.m., 6/23/21	94.8	105.6	113.1

Source: PlaceWorks 2021.

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Existing Traffic Noise

Traffic noise levels were estimated using the FHWA Highway Traffic Noise Prediction Model and traffic data provided by Fehr & Peers Transportation Consultants (see Appendix 4.10, Noise Data, of this Draft EIR). The FHWA model predicts noise levels through a series of adjustments to a reference sound level. These adjustments account for distances from the roadway, traffic volumes, vehicle speeds, car/truck mix, number of lanes, and road width. Existing (2019) roadway noise contours distances for 60, 65, and 70 dBA CNEL are shown in Table 4.10-6.

TABLE 4.10-6 EXISTING TRAFFIC NOISE IN THE SPECIFIC PLAN AREA

Roadway Segment	Existing ADT Segment Volumes	Existing CNEL (dBA) at 50 Feet	Distance to CNEL Contour (feet)		
			70 dBA	65 dBA	60 dBA
First Street – D Street to E Street	13,535	62.3	15	33	71
Richards Boulevard – First Street to Olive Drive	20,492	64.0	20	43	92
Third Street – B Street to C Street	4,769	57.5	7	16	34
Russell Boulevard – A Street to B Street	19,828	64.2	21	44	96
Eighth Street – G Street to H Street	9,242	60.2	11	24	51
A Street – Third Street to Russel Boulevard	2,560	54.5	5	10	21
B Street – Third Street to Russel Boulevard	13,778	62.6	16	35	74
C Street – Third Street to Fourth Street	1,839	53.4	4	8	18
D Street – Third Street to Fourth Street	2,127	54.0	4	9	20
E Street – First Street to Second Street	4,328	57.5	7	16	34
F Street – First Street to Second Street	5,345	58.0	8	17	36

Source: Based on FHWA's traffic noise prediction model methodology using roadway volumes, vehicle mix, time of day splits, and number of lanes provided by Fehr & Peers, 2021 (see Appendix 4.10, Noise Data, of this Draft EIR).

Aircraft Noise

Aircraft noise in the Specific Plan Area is characterized as rare but can be intrusive to nearby sensitive receptors. There are no airports within the Specific Plan Area. The nearest airport to the Specific Plan Area is the University of California at Davis University Airport, approximately 2.4 miles to the southwest. The airport has one asphalt runway and aircraft can approach from either direction. University Airport is a public use airport. The airport provides aircraft maintenance, flight instruction, and aircraft rentals. According to the UC Davis 2018 Long Range Development Plan, the University Airport 55 dBA CNEL noise contour extends approximately 4,500 feet from either terminus of the airport's runway. The nearest heliport is Joe Heidrick Heliport, approximately 9 miles to the northwest.

Railroad Noise

Railroad operations are also a substantial source of noise in some parts of the plan area. Day-night average noise levels vary throughout the city depending on the number of trains per day along a given rail line, the timing and duration of train pass-by events, and whether trains must sound their warning horns near "at-grade" crossings. When trains approach a passenger station or at-grade crossing, they are

required to sound their warning horn within a quarter mile. Train warning horns typically generate maximum noise levels of 105 to 110 dBA at 100 feet.

There are two railroad corridors that are adjacent to or within the Specific Plan Area. The UP Martinez Subdivision has double tracks that parallel the southeast boundary of the Specific Plan Area and the Amtrak Davis Station is within the Specific Plan Area. The Martinez Subdivision is owned and operated by UP and runs from Roseville, California to Oakland, California. UP and Burlington Northern Santa Fe (BNSF) Railway Company transport freight along these tracks. In addition, Amtrak operates the Capitol Corridor passenger service along the tracks, as well as two daily long-distance trains – the California Zephyr and the Coast Starlight.

The CFNR is a short-line railroad company that operates switching trains along the main line track and one to three sidings that parallel or are within the eastern boundary of the Specific Plan Area. The CFNR West Valley Subdivision starts at the wye configuration with the UP Martinez Subdivision and extends north to Tehama, CA. This railroad transports mainly food and agricultural commodities to local customers.

There are five at-grade crossings adjacent to or within the Specific Plan Area – one located at Arboretum Drive on the UP Martinez Subdivision and four on the CFNR West Valley Subdivision at 3rd Street, 4th Street, 5th Street, and 8th Street.

Freight Traffic

Based on noise monitoring at LT-1, it is estimated that approximately 13 freight trains passed by the Arboretum Drive crossing during the 24-hour period of June 22 to 23, 2021. Seven of the freight trains passed during daytime hours (7:00 a.m. to 10:00 p.m.) and six trains passed during nighttime hours (10:00 p.m. to 7:00 a.m.). The freight trains typically travel during non-commute hours to avoid interference with the Amtrak Capitol Corridor passenger trains, which is early afternoon and in the middle of the night. The freight trains include manifest trains, intermodal transport trains, or oil tanker trains heading to or from Oakland. Freight traffic is limited to 30 mph as the trains approach the Amtrak Davis Station, and the typical freight train consists of three locomotives and approximately 100 cars.

Based on noise monitoring at LT-2, it is estimated that approximately four CFNR switching trains passed by between the hours of 8:47 a.m. and 1:04 p.m. during the 24-hour period of June 22 to 23, 2021. This is consistent with the agreement reached between the City of Davis and CFNR to cease night operations and conduct switching operations between the hours of 7:30 am and the early afternoon to minimize disruption to residents (City of Davis 2021). The typical CFNR switching train consists of one locomotive and ten cars traveling approximately 25 mph.

Passenger Traffic

Amtrak operates 22 Capitol Corridor passenger trains along the UP Martinez Subdivision – 11 westbound and 11 eastbound trains every weekday between the hours of 4:25 a.m. and 8:45 p.m. The Capitol Corridor route runs from Auburn, CA to San Jose, CA. The Capitol Corridor trains run approximately every hour to 1.5 hours during the morning commute hours and the late afternoon/early evening commute hours. The typical Capitol Corridor train consists of one locomotive and five cars traveling approximately 35 mph at the Arboretum Drive crossing as it approaches or departs from the Amtrak Davis station.

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Amtrak also operates two long distance passenger trains along the UP Martinez Subdivision: the California Zephyr (Emeryville-Chicago) and the Coast Starlight (Seattle-Los Angeles). The California Zephyr traveling westbound arrives at the Amtrak Davis Station at 2:44 p.m., and traveling eastbound departs at 10:36 a.m. The Coast Starlight traveling southbound arrives at the Amtrak Station at 6:50 a.m. from Seattle, and traveling northbound departs at 11:50 p.m. These trains typically consist of two locomotives and 10 cars. These trains travel at approximately 35 mph at the Arboretum Drive crossing.

Amtrak Davis Station

The Amtrak Davis Station is located within the Specific Plan Area at 840 2nd Street. The station is open Monday through Friday from 4:15 a.m. to 11:33 pm, or until the last train arrives. Staff are on-site from 6:00 a.m. to 2:30 p.m., Monday through Friday. All Amtrak trains stop at this station, while the freight trains continue through the station without stopping.

Existing Railroad Noise Levels

Existing railroad noise levels were estimated using the Federal Transit Administration's (FTA's) CREATE rail noise model and the Federal Rail Administration's (FRA's) Grade Crossing Horn Model and the long-term and short-term noise monitoring data collected by PlaceWorks along the UP Martinez Subdivision and the CFNR rail line and. The noise monitoring data was used to determine current freight and passenger train counts, pass-by time of day, and approximate speed. The number of locomotives and rail cars were estimated based on Amtrak websites, UP Martinez Subdivision videos, and FRA accident data.

Table 4.10-7 contains the calculated distances to the 65 dBA CNEL contours from existing railroad noise, both from the main line and within a quarter mile of grade crossings where horn warnings are required.

TABLE 4.10-7 EXISTING RAILROAD NOISE LEVELS

Operator	Subdivision	Distance (feet) to 65 dBA CNEL Contour (Main Line)	Distance (feet) to 65 dBA CNEL Contour (Within ¼ Mile of Grade Crossing)
UP	Martinez Subdivision	180	364
CFNR	West Valley Subdivision	8	69

Source: Calculated using the FTA CREATE Model and FRA Grade Crossing Horn Model. See Appendix 4.10.

Stationary Source Noise

Stationary sources of noises may occur on all types of land uses. Residential uses generate noise from landscaping, maintenance activities, and air conditioning systems. Commercial uses generate noise from heating, ventilation, air conditioning (HVAC) systems, loading docks, and other sources. Industrial uses may generate noise from HVAC systems, loading docks, and possibly machinery. Noise generated by residential or commercial uses are generally short and intermittent. Industrial uses may generate noise on a more continual basis due to the nature of the activities, though industrial uses are not prevalent in the Specific Plan Area. Nightclubs, outdoor dining areas, gas stations, car washes, fire stations, drive-throughs, swimming pool and hot tub pumps, school playgrounds, athletic and music events, and public parks are other common noise sources.

4.10.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant noise impact if it would:

1. Result in generation of 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.
2. Result in generation of excessive groundborne vibration or groundborne noise levels.
3. 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, expose people residing or working in the project area to excessive noise levels.
4. Result in significant cumulative noise-related impacts.

Construction Noise

City of Davis Municipal Code Section 24.02.40, *Special Provisions*, states that construction noise is exempt provided it occurs between the hours of 7:00 am and 7:00 pm on weekdays and 8:00 am and 8:00 pm on Saturdays and Sundays, and meets at least one of the following limitations:

- No individual piece of equipment that produces a noise level that exceed 83 dBA at a distance of 25 feet.
- The noise level at any point outside of the property plane of the project does not exceed 86 dBA.
- Impact tools and equipment do not need to meet the noise level standards described above, so long as they have intake and exhaust mufflers, and that pavement breakers and jackhammers are also equipped with acoustically attenuating shields or shrouds. Construction projects more than 200 feet from existing homes can request a special use permit to begin work at 6:00 am on weekdays between June 15th and September 1st (percussion type tools allowed after 7:00 am).

Therefore, a significant impact would occur if temporary construction activity would exceed on 83 dBA at a distance of 25 feet or 86 dBA outside the property plane of the project.

Stationary Noise

The City of Davis Municipal Code sets operational noise limits from stationary sources under Section 24.02.020, *Noise Limits* (summarized in Table 4.10-3), and Section 24.02.030, Maximum Noise Limit. These limits are used to determine impact significance for operational noise from stationary noise sources.

Mobile Noise

A project will normally have a significant effect on the environment related to mobile noise sources, such as traffic, if it will substantially increase the ambient noise levels for adjoining areas. Most people can detect changes in sound levels of approximately 3 dBA under normal, quiet conditions, and changes of 1 to 3 dBA are detectable under quiet, controlled conditions. Changes of less than 1 dBA are usually

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undetectable. A change of 5 dBA is readily audible to most people in an exterior environment. Based on this, the following thresholds of significance, similar to those recommended by the Federal Aviation Administration (FAA), are used to assess traffic noise impacts at sensitive receptor locations. A significant impact would occur if traffic noise increase would exceed:

- 1.5 dBA increase for ambient noise environments of 65 dBA CNEL and higher;
- 3 dBA increase for ambient noise environments of 60 to 64 dBA CNEL; or
- 5 dBA increase for ambient noise environments of less than 60 dBA CNEL.

Vibration

The City does not have specific limits or thresholds for vibration. The Federal Transit Administration (FTA) provides criteria for acceptable levels of groundborne vibration for various types of buildings identified as Category I, II, and III buildings based on the type of materials from which they are constructed. These criteria are used for this analysis for construction vibration and shown in Table 4.10-8. A Category III, non-engineered timber and masonry buildings, threshold of 0.20 in/sec PPV would apply to typical residential structures.

TABLE 4.10-8 GROUNDBORNE VIBRATION CRITERIA: ARCHITECTURAL DAMAGE

Building Category	PPV (in/sec)
I. Reinforced concrete, steel, or timber (no plaster)	0.50
II. Engineered concrete and masonry (no plaster)	0.30
III. Nonengineered timber and masonry buildings	0.20
IV. Buildings extremely susceptible to vibration damage	0.12

Note: PPV = peak particle velocity
Source: FTA 2018

4.10.3 IMPACT DISCUSSION

NOI-1	Implementation of the proposed project could result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Specific Plan Area in excess of standards established in the local noise ordinance during construction or operational activities.

Construction Noise

Potential future development could result in two types of temporary noise impacts during construction.

- The transport of workers and movement of materials to and from the site could incrementally increase noise levels along local access roads.

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- Noise would be generated from activities related to demolition, site preparation, grading, and/or physical construction.

Construction is performed in phases, each of which has its own mix of equipment, and, consequently, its own noise characteristics. Table 4.10-9 lists typical construction equipment noise levels recommended for noise-impact assessments, based on a distance of 50 feet between the equipment and noise receptor.

TABLE 4.10-9 CONSTRUCTION EQUIPMENT NOISE EMISSION LEVELS

Construction Equipment	Typical Max Noise Level (dBA Lmax) ^a	Construction Equipment	Typical Max Noise Level (dBA Lmax) ^a
Air Compressor	81	Pile-Driver (Impact)	101
Backhoe	80	Pile-Driver (Sonic)	96
Ballast Equalizer	82	Pneumatic Tool	85
Ballast Tamper	83	Pump	76
Compactor	82	Rail Saw	90
Concrete Mixer	85	Rock Drill	98
Concrete Pump	71	Roller	74
Concrete Vibrator	76	Saw	76
Crane, Derrick	88	Scarifier	83
Crane, Mobile	83	Scraper	89
Dozer	85	Shovel	82
Generator	81	Spike Driver	77
Grader	85	Tie Cutter	84
Impact Wrench	85	Tie Handler	80
Jack Hammer	88	Tie Insertter	85
Loader	85	Truck	88
Paver	89		

Notes:

^a: Measured 50 feet from the source.

Source: FTA 2018

As shown, construction equipment generates high levels of noise, with maximums ranging from 71 dBA to 101 dBA. Construction of individual developments associated with implementation of the project would temporarily increase the ambient noise environment and would have the potential to affect noise-sensitive land uses in the vicinity of an individual development project. According to Municipal Code Section 24.02.40, *Special Provisions*, construction activities are limited to the hours of 7:00 am to 7:00 pm Monday through Friday and 8:00 am to 8:00 pm Saturdays and Sundays, provided construction noise does not exceed 83 dBA at a distance of 25 feet or provided it does not exceed 86 dBA at any point outside the property plane of the project. Construction projects where existing homes are located more than 200 feet from the project may request a special use permit to begin construction activity at 6:00 am instead of 7:00 am on weekdays from June 15th to September 1st. As mentioned in the regulatory setting section above, the City exempts impact tools and equipment provided the tools and equipment have intake and exhaust mufflers, and pavement breakers and jackhammers are also equipped with acoustically attenuating shields and shrouds recommended by manufacturers and approved by the director of public works.

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Implementation of the proposed project would increase development to accommodate new population and overall growth. Construction noise levels are highly variable and dependent upon the specific locations, site plans, and construction details of individual projects. Construction would be localized and would occur intermittently for varying periods of time. Significant noise impacts may occur from operation of heavy earth-moving equipment and truck haul operations associated with construction of individual development projects, particularly if construction techniques, such as impact or vibratory pile driving are proposed. The time of day that construction activity is conducted would also determine the significance of each project, particularly if it occurs during the more sensitive nighttime hours. Nighttime construction can sometimes occur for activities such as concrete pours, water conveyance projects to run pumps for 24 hours, etc. At the Specific Plan-level, it is assumed that construction may need to, at times, occur outside of Municipal Code allowable hours with approval of an exception permit, pursuant to Davis Municipal Code Section 24.06.010.

Action M of Policy NOISE 1.1 of the Noise Element requires all equipment to have sound-control devices no less effective than those provided on the original equipment, and no equipment shall have an unmuffled exhaust; and, as directed by the City, the contractor must implement appropriate additional noise mitigation measures including, but not limited to, changing the location of stationary construction equipment, shutting off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, or installing acoustic barriers around stationary construction noise sources. While the City has established noise limits during the construction phase of potential future projects, project level detail such as specific equipment mix and proximity to sensitive receptors is unknown at this time. Therefore, construction noise could exceed the established thresholds of significance and would be *potentially significant*.

Significance Without Mitigation: Potentially significant.

Mitigation Measures

Impact NOI-1: Construction activities associated with future development could expose nearby sensitive receptors to noise that exceeds the City's noise limits.

Mitigation Measure NOI-1: Prior to issuance of demolition, grading and/or building permits, the project applicant shall incorporate the following practices into the construction contract agreement to be implemented by the construction contractor during the entire construction phase:

- During the entire active construction period, equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds), wherever feasible.
- Require the contractor to use impact tools (e.g., jack hammers and hoe rams) that are hydraulically or electrically powered wherever possible. Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used along with external noise jackets on the tools.
- Stationary equipment such as generators and air compressors shall be located as far as feasible from nearby noise-sensitive uses.

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- Stockpiling shall be located as far as feasible from nearby noise-sensitive receptors.
- Construction traffic shall be limited—to the extent feasible—to haul routes approved by the City.
- At least 10 days prior to the start of construction activities, a sign shall be posted at the entrance(s) to the job site, clearly visible to the public, that includes permitted construction days and hours, as well as the telephone numbers of the City’s and contractor’s authorized representatives that are assigned to respond in the event of a noise or vibration complaint. If the authorized contractor’s representative receives a complaint, he/she shall investigate, take appropriate corrective action, and report the action to the City.
- Signs shall be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment shall be turned off if not in use for more than 5 minutes.
- During the entire active construction period, to the extent feasible, the use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. The construction manager shall use smart back-up alarms, which automatically adjust the alarm level based on the background noise level, or switch off back-up alarms and replace with human spotters in compliance with all safety requirements and laws.
- Erect temporary noise barriers, where feasible, when construction noise is predicted to exceed the City noise standards and when the anticipated construction duration is greater than is typical (e.g., two years or greater).

Because construction activities associated with any individual development may occur near noise-sensitive receptors and because, depending on the project type, equipment list, time of day, phasing and overall construction durations, noise disturbances may occur for prolonged periods of time, during the more sensitive nighttime hours with an exception permit, or may exceed the City’s noise standards even with project-level mitigation, construction noise impacts associated with implementation of the Specific Plan are considered significant and unavoidable. It should be noted that the identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent projects analyzed at the project level.

Mitigation Measure NOI-2: Prior to issuance of demolition, grading and/or building permits, the project applicant shall submit a construction impact management plan including a project development schedule and “good neighbor” information for review and approval by the Community Development and Public Works Departments. The project applicant shall incorporate the plan into the construction contract agreement to be implemented by the construction contractor during construction and shall include, but is not limited to, the following measures Public notice requirements for periods of significant impacts (noise/vibration/street or parking lot closures, etc.), special street posting, construction vehicle parking plan, phone listing for community concerns, names of persons who can be contacted to correct problems, hours of construction activity, noise limits, dust control measures, and security fencing and temporary walkways.

Significance With Mitigation: Significant and unavoidable.

NOISE

Operational Noise

Traffic Noise

Future development from implementation of the proposed Specific Plan would cause increases in traffic along local roadways. Traffic noise levels were estimated using the FHWA Highway Traffic Noise Prediction Model. Traffic volumes for existing and 2040 conditions were obtained from Fehr & Peers (see Appendix 4.10, Noise Data). The FHWA model predicts noise levels through a series of adjustments to a reference sound level. These adjustments account for distances from the roadway, traffic volumes, vehicle speeds, car/truck mix, number of lanes, and road width.

Table 4.10-10 presents the noise level increases on roadways over existing conditions at 50 feet from the centerline of the nearest travel lane and shows the distances to the 60, 65, and 70 dBA CNEL noise contours from roadways. As shown in Table 4.10-10, traffic noise increases along roadways are generally in the range of 0.1 to 1.6 dBA CNEL with implementation of the proposed Specific Plan. All traffic noise increases along study roadway segments would be below the significance thresholds which are based on the existing ambient noise levels. Therefore, traffic noise increases would be *less than significant*.

TABLE 4.10-10 TRAFFIC NOISE INCREASES IN THE SPECIFIC PLAN AREA

Roadway Segment	Existing CNEL (dBA) at 50 Feet	Existing Plus Plan CNEL (dBA) at 50 Feet	Increase	Threshold	Significant?
First Street – D Street to E Street	62.3	62.4	0.1	3	No
Richards Boulevard – First Street to Olive Drive	64.0	64.4	0.4	3	No
Third Street – B Street to C Street	57.5	57.8	0.3	5	No
Russell Boulevard – A Street to B Street	64.2	64.4	0.3	3	No
Eighth Street – G Street to H Street	60.2	60.4	0.2	3	No
A Street – Third Street to Russel Boulevard	54.5	54.5	0.0	5	No
B Street – Thirds Street to Russel Boulevard	62.6	62.7	0.0	3	No
C Street – Third Street to Fourth Street	53.4	53.6	0.2	5	No
D Street – Third Street to Fourth Street	54.0	55.7	1.6	5	No
E Street – First Street to Second Street	57.5	58.4	0.9	5	No
F Street – First Street to Second Street	58.0	58.7	0.8	5	No

Source: Based on FHWA's traffic noise prediction model methodology using roadway volumes, vehicle mix, time of day splits, and number of lanes provided by Fehr & Peers, 2021 (see Appendix 4.10, Noise Data, of this Draft EIR).

Rail Noise

Future railroad noise levels were estimated using the long-term and short-term noise monitoring data collected by PlaceWorks along the UP Martinez Subdivision and the CFNR rail line and the Federal Transit Administration's (FTA's) CREATE rail noise model and the Federal Rail Administration's (FRA's) Grade Crossing Horn Model. The noise monitoring data was used to determine current freight and passenger train counts, day or night pass-bys, and speed. The number of locomotives and rail cars was determined from Amtrak websites, UP Martinez Subdivision videos, and FRA accident data.

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In addition, future noise-sensitive land uses could be located in areas that exceed the “Normally Acceptable” noise standards due to railroad activity. Table 4.10-11 contains the calculated distances to the 65 dBA Ldn/CNEL contours from future railroad noise. The same modeling methodology that was used to estimate existing railroad noise contours was used for future railroad activity. For future conditions, the growth rate in freight traffic is assumed to be 2.5 percent per year, which would result in 21 freight trains/day by the year 2040 (Wilbur Smith Associates. 2010). This is a conservative assumption, because the increase in freight demand may be met by making trains longer instead of increasing the number of trains. As indicated in the Capitol Corridor Business Plan Update FY 2021-2023, future growth is expected to increase to 30 Amtrak trains per weekday. However, any additional growth beyond this amount is currently limited by the operating agreement between the State of California and UP. There are no current plans to increase the number of long-distance passenger trains.

Future freight traffic for this analysis was assumed to be the same as existing conditions. According to the Federal Railroad Administration, total train miles for the CFNR line has decreased over the past six years with the loss of agricultural customers.

Though implementation of the proposed project would not cause a direct increase in rail activity, future residential development could be placed within areas that would expose sensitive receptors to noise levels in excess of established standards. The City’s land use compatibility standards (Figure 4.10-1) and Noise Element Policy NOISE 2.1 would require that new developments are built to maintain acceptable noise levels. In addition, Downtown Davis Specific Plan Policy 2.7 would require that buildings that are three stories or taller and immediately adjacent to rail lines in the Plan Area be treated with acoustical absorptive material on the building façade facing the rail line. This would reduce the reflection of rail noise to sensitive receptors potentially located across from future large buildings. Downtown Specific Plan Policy 2.8 would require the formation of a task force to consider the costs and benefits of applying for FRA Quiet Zone status along the at-grade crossings in the Plan Area.

TABLE 4.10-11 FUTURE 2040 RAILROAD NOISE LEVELS

Operator	Subdivision	Distance (feet) to 65 dBA CNEL Contour (Main Line)	Distance (feet) to 65 dBA CNEL Contour (Within ¼ Mile of Grade Crossing)
UP	Martinez Subdivision	225	427
CFNR	West Valley Subdivision	8	69

Source: Calculated using the FTA CREATE Model and FRA Grade Crossing Horn Model. See Appendix 4.10

Stationary Source Noise

Stationary sources of noise can occur on all types of land uses. Residential uses generate noise from landscaping, maintenance activities, and air conditioning systems. Commercial uses would generate noise from HVAC systems, loading docks, and other sources. Industrial uses may generate noise from HVAC systems, loading docks, and possibly machinery. Noise generated by residential or commercial uses is generally short and intermittent. Nightclubs, outdoor dining areas, gas stations, car washes, fire stations, drive-throughs, swimming pool pumps, school playgrounds, athletic and music events, and public parks are other common noise sources. Stationary noise sources are controlled by the Municipal Code (Table

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4.10-3). Furthermore, the Downtown Davis Specific Plan requires that rooftop mechanical equipment and utility structures are provided with measures to buffer noise from adjacent residential uses. Section 40.14.030, *Screening*, of the Draft Downtown Form Based Code sets standards for screening, fences, and walls for the attenuation of noise. Section 40.14.050, *Parking and Loading*, limits, screens, and landscapes motor vehicle parking to attenuate noise.

Land Use Compatibility

As a result of the Supreme Court decision regarding the assessment of the environment's impacts on projects (*California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal. 4th 369 (No. S 213478), December 17, 2015), it is generally no longer the purview of the CEQA process to evaluate the impact of existing environmental conditions on any given project. As a result, while the noise from existing sources is taken into account as part of the baseline, the direct effects of exterior noise from nearby noise sources relative to land use compatibility of a future project as a result of Specific Plan buildout is typically no longer a required topic for impact evaluation under CEQA. Generally, no determination of significance is required with the exception of certain school projects, projects affected by airport noise, and projects that would exacerbate existing conditions (i.e., projects that would have a significant operational impact). The City's land use compatibility standards (Figure 4.10-1) and Noise Element Policy NOISE 2.1 would require that new developments are built to maintain acceptable noise levels. At the discretion of the Building Division, requirements may include, but not necessarily be limited to, acoustical studies that show noise reduction features, acoustical design in new construction, and other methods that provide compliance with the California Building Code and General Plan Noise Standards for acceptable indoor and outdoor noise levels.

Significance Without Mitigation: Less than significant.

NOI-2	Implementation of the proposed project could result in generation of excessive groundborne vibration or groundborne noise levels.

Construction Vibration

Construction of future projects in the Specific Plan Area could generate varying degrees of ground vibration, depending on the construction procedures and equipment. Operation of construction equipment generates vibration that spreads through the ground and diminishes with distance from the source. The effect on buildings in the vicinity of a construction site varies depending on soil type, ground strata, and the type of materials the buildings constructed from. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. Vibration from construction activities rarely reaches the levels that can cause architectural damage but can annoy people in buildings close to the construction site. Table 4.10-12 lists typical vibration levels for construction equipment in terms of peak particle velocity (PPV), which as previously described is the peak rate of speed at which soil particles move due to ground vibration. PPV is measured in inches per second or in/sec.

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TABLE 4.10-12 VIBRATION LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Approximate PPV Vibration Level at 25 Feet (inches per second)
Pile Driver, Impact (Upper Range)	1.518
Pile Driver, Impact (Typical)	0.644
Pile Driver, Sonic (Upper Range)	0.734
Pile Driver, Sonic (Typical)	0.170
Vibratory Roller	0.210
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks	0.076
Jackhammer	0.035
Small Bulldozer	0.003

Notes: Peak Particle Velocity (PPV) is the peak rate of speed at which soil particles move (e.g., inches per second or in/sec) due to ground vibration.
Source: FTA 2018

As shown in Table 4.10-12, vibration generated by construction equipment has the potential to be substantial, since it has the potential to exceed the FTA criteria for architectural damage (e.g., 0.12 in/sec PPV for fragile or historical resources, 0.20 in/sec PPV for non-engineered timber and masonry buildings, and 0.30 in/sec PPV for engineered concrete and masonry). Construction details and equipment for future project-level developments under the Plan are not known at this time, but may cause vibration impacts. As such, this would be a potentially significant impact.

Significance without Mitigation: Potentially significant.

Mitigation Measures

Impact NOI-2: Construction activities associated with buildout of the proposed project may expose sensitive uses to excessive levels of groundborne vibration.

Implement Mitigation Measure NOI-2

Mitigation Measure NOI-3: Prior to issuance of a building permit for a project requiring pile driving during construction within 135 feet of fragile structures such as historical resources, 100 feet of non-engineered timber and masonry buildings (e.g., most residential buildings), or within 75 feet of engineered concrete and masonry (no plaster); or a vibratory roller within 25 feet of any structure, the project applicant shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. This noise and vibration analysis shall be conducted by a qualified acoustical consultant or engineer. The vibration levels shall not exceed Federal Transit Administration (FTA) architectural damage thresholds (e.g., 0.12 in/sec PPV for fragile or historical resources, 0.2 in/sec PPV for non-engineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry). If vibration levels would exceed this threshold, alternative equipment of construction methods such static rollers and drilling piles as opposed to pile driving shall be used.

Significance with Mitigation: Less than significant.

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Operational Vibration

The effect of vibration on buildings in the vicinity of a vibration source varies depending on soil type, ground strata, and receptor-building construction. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to architectural damage at the highest levels. The land uses proposed by the Specific Plan are not expected to generate additional sources of long-term vibration in the Plan Area. Land uses that generate perceptible vibration during operation generally include industrial/manufacturing centers that continuously operate heavy machinery or freight uses. While the Plan would allow for more housing opportunities and flexibility in commercial and retail uses, it would not allow for increased industrial or freight uses. Future sensitive receptors could be placed close to existing railroad lines through buildout in the plan area. Due to the low train volume and speeds, vibration levels along the CFNR West Valley Subdivision are not substantial.

Because specific project-level information is not available at this time, it is not possible to quantify future vibration levels at vibration-sensitive receptors that may be close to existing and future vibration sources. However, as noted above, the courts have found that impacts of the environment on a project is not considered a CEQA issue, unless the project contributes to or exacerbates the impact. The proposed Specific Plan would not increase rail operations such that there would be a substantial increase in vibration. Therefore, vibration from existing railroad lines would not be considered an impact.

Significance Without Mitigation: Less than significant.

NOI-3	Implementation of the proposed project would not expose people residing or working in the Plan Area to excessive aircraft noise levels.

The University Airport is the closest air strip and is approximately 2.4 miles southwest of the Specific Plan Area. According to the UC Davis 2018 Long Range Development Plan, the University Airport 55 dBA CNEL noise contour extends approximately 4,500 feet from either terminus of the airport's runway. Airport noise does not significantly affect sensitive receptors in the Specific Plan Area and there would be no impact.

Significance Without Mitigation: No impact.

4.10.4 CUMULATIVE IMPACTS

NOI-4	Implementation of the proposed project could result in a cumulatively considerable construction noise impact.

The analysis of the proposed project, discussed above, addresses cumulative impacts relating to noise, groundborne noise, and vibration. Although multiple simultaneous nearby noise sources may, in combination, result in higher overall noise levels, this effect is captured and accounted for by the ambient noise level metrics that form the basis of the thresholds of significance for noise analysis. Any

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measurement of sound or ambient noise, whether for the purpose of evaluating land use compatibility, establishing compliance with exterior and interior noise standards, or determining point-source violations of a noise ordinance, necessarily will incorporate noise from all other nearby perceptible sources.

Additionally, although noise attenuation is influenced by a variety of topographical, meteorological, and other factors, noise levels decrease rapidly with distance, and vibration impacts decrease even more rapidly. The Specific Plan Area shares a border with other City of Davis neighborhoods, which makes cross-community cumulative noise and vibration impacts possible. Nevertheless, given the Noise Element policies and Municipal Code requirements discussed above, it is unlikely that stationary operations-related noise would, in combination with noise sources from other areas, result in cumulative noise impacts.

Table 4.10-13 shows cumulative traffic noise increases in the Plan Area. As shown in Table 4.10-3, cumulative traffic noise increases would be less than significant.

TABLE 4.10-13 CUMULATIVE TRAFFIC NOISE INCREASES IN THE SPECIFIC PLAN AREA

Roadway Segment	Existing CNEL (dBA) at 50 Feet	2040 Plus Plan CNEL (dBA) at 50 Feet	Increase	Threshold	Significant?
First Street – D Street to E Street	62.3	62.9	0.5	3	No
Richards Boulevard – First Street to Olive Drive	64.0	65.3	1.3	3	No
Third Street – B Street to C Street	57.5	60.0	2.5	5	No
Russell Boulevard – A Street to B Street	64.2	65.7	1.5	3	No
Eighth Street – G Street to H Street	60.2	60.9	0.7	3	No
A Street – Third Street to Russel Boulevard	54.5	55.2	0.7	5	No
B Street – Thirds Street to Russel Boulevard	62.6	63.3	0.7	3	No
C Street – Third Street to Fourth Street	53.4	54.0	0.7	5	No
D Street – Third Street to Fourth Street	54.0	56.3	2.3	5	No
E Street – First Street to Second Street	57.5	60.1	2.6	5	No
F Street – First Street to Second Street	58.0	58.8	0.8	5	No

Source: Based on FHWA's traffic noise prediction model methodology using roadway volumes, vehicle mix, time of day splits, and number of lanes provided by Fehr & Peers, 2021 (see Appendix 4.10, Noise Data, of this Draft EIR).

If the construction of potential future projects that implement the proposed Plan were to overlap with cumulative projects in the vicinity, construction noise could combine to result in significant cumulative impacts. The specific vicinity impacted by cumulative construction would likely shift as projects are completed and new projects begin. Since specific construction details, such as phasing schedules, are not known at this time for cumulative projects under the proposed Plan, cumulative construction noise, like Impact NOI-1, may result in potentially *significant* temporary noise impacts.

Significance Without Mitigation: Potentially significant.

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Mitigation Measures

Impact NOI-4: The proposed project, in combination with past, present, and reasonably foreseeable projects, could result in a significant cumulative impact with respect to construction noise.

Mitigation Measure NOI-4: Implement Mitigation Measure NOI-1 and Mitigation Measure NOI-2.

Significance With Mitigation: Significant and Unavoidable.

4.10.5 REFERENCES

California Department of Transportation (Caltrans), 2013a. Technical Noise Supplement (“TeNS”).

_____.2013b. Transportation and Construction Vibration Guidance Manual.

_____.2020. Traffic Noise Analysis Protocol.

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POPULATION AND HOUSING

4.11 POPULATION AND HOUSING

This section describes the regulatory framework and existing conditions in the Specific Plan Area related to population and housing, and the potential impacts of the proposed project related to population, housing, and employment that could result from adoption and implementation of the proposed project.

4.11.1 ENVIRONMENTAL SETTING

4.11.1.1 REGULATORY FRAMEWORK

State Regulations

California General Plan Law

California Housing Element law (Government Code Sections 65580 to 65589.11) includes provisions related to the requirements for housing elements of local government general plans. Among these requirements are an assessment of housing needs and an inventory of resources and constraints relevant to meeting these needs. Additionally, in order to assure that counties and cities recognize their responsibilities in contributing to the attainment of the State housing goals, the California Government Code calls for local jurisdictions to plan for, and facilitate the construction of, their fair share of the region's projected housing needs, known as the Regional Housing Needs Allocation (RHNA).

The Housing Accountability Act

The Housing Accountability Act (HAA), which is part of the State Planning and Zoning Law, prohibits a local agency from disapproving, or conditioning approval in a manner that renders infeasible, a housing development project for very low, low-, or moderate-income households or an emergency shelter unless the local agency makes specified written findings based on a preponderance of the evidence in the record. The Act specifies that one way to satisfy that requirement is to make findings that the housing development project or emergency shelter is inconsistent with both the jurisdiction's zoning ordinance and general plan land use designation as it existed on the date the application was deemed complete, and the jurisdiction has adopted a housing element that is compliant with Government Code Section 65588.

The Act also requires a local agency that proposes to disapprove a housing development project for any income level that complies with applicable, objective general plan and zoning standards and criteria that were in effect at the time the application was deemed to be complete, or to approve it on the condition that it be developed at a lower density, to base its decision upon written findings that the project would have a specific, adverse impact on public health or safety unless it is denied or approved with reduced residential density, and there is no other feasible method to satisfactorily mitigate or avoid or mitigate the specific adverse impact. The burden of proof is on the local agency to show that its findings are supported by a preponderance of the evidence in the record.

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The Housing Crisis Act of 2019

The Housing Crisis Act of 2019, or Senate Bill 330 (SB 330), was passed in October 2019 to address California's housing shortage by expediting the approval process for housing development projects. The Housing Crisis Act prohibits some local discretionary land use controls and generally requires cities to approve housing developments that comply with the objective standards in local zoning codes and general plans. It requires that a housing development project only be subject to the ordinances, policies, and standards adopted and in effect when a preliminary application is submitted, notwithstanding the provisions of the HAA or any other law, subject to certain exceptions. The Act included amendments to the HAA, Planning and Zoning Law, and Permit Streamlining Act, setting new provisions statewide for housing development projects. Many of the bill's provisions are currently set to expire in 2030.

State Density Bonus Law

The State Density Bonus Law (California Government Code Sections 65915-65918) encourages the development of affordable and senior housing, including up to a 50 percent increase in project densities for certain projects, depending on the amount of affordable housing provided. Cities and counties are required to grant a density bonus and other incentives or concessions or waivers of developments standards to housing projects which contain one of the following:

- At least 5 percent of the housing units are restricted to very low income residents.
- At least 10 percent of the housing units are restricted to lower income residents.
- At least 10 percent of the housing units in a for-sale common interest development are restricted to moderate income residents.
- 100 percent of the housing units (other than manager's units) are restricted to very low, lower and moderate income residents (with a maximum of 20 percent moderate).
- At least 10 percent of the housing units are for transitional foster youth, disabled veterans or homeless persons, with rents restricted at the very low income level.
- At least 20 percent of the housing units are for low income college students in housing dedicated for full-time students at accredited colleges.
- The project donates at least one acre of land to the city or county for very low income units, and the land has the appropriate general plan designation, zoning, permits and approvals, and access to public facilities needed for such housing.
- The project is a senior citizen housing development (no affordable units required).
- The project is a mobilehome park age-restricted to senior citizens (no affordable units required).

Regional Regulations

Sacramento Area Council of Governments (SACOG)

SACOG is an association of local governments in the six-county Sacramento region. Its members include the counties of El Dorado, Placer, Sacramento, Sutter, Yolo, Yuba, and the 22 cities within. SACOG provides

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transportation planning and funding for the region, and serves as a forum for the study and resolution of regional issues. In addition to pertaining the region's long-range transportation plan, SACOG is responsible for developing the methodology for allocating the Regional Housing Needs Allocation (RHNA) housing units to each city and county in the region. SACOG also assists in planning for transit, bicycle networks, clean air and airport land uses.

2020 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS)

The 2020 MTP/SCS for the Sacramento region proactively links land use, air quality, and transportation needs. The MTP/SCS is federally required to be updated every four years. The SACOG board adopted the 2020 MTP/SCS and accompanying documents at a special board meeting on November 18, 2019.

Regional Housing Needs Allocation (RHNA)

SACOG plays a key role in the State's housing Needs Allocation (RHNA) process. Every eight years, the State of California's Housing and Community Development Department (HCD) provides SACOG with a determination of the regional housing need, which represents the number of housing units the region must plan for. The total allocation is broken down into four categories, and the lower two income categories—Low Income and Very Low Income—must be accommodated on sites zoned for higher densities. SACOG is responsible for developing a methodology for allocating these units by income category to each city and county in the region. Once jurisdictions have their RHNA, they must adopt a Housing Element that demonstrates how there is adequate land zoned for housing to accommodate the RHNA at each income level.

Local Regulations

City of Davis General Plan

Development of housing in the City of Davis is guided by goals, policies, standards, and actions of the General Plan. The City of Davis General Plan includes the following policies on population and housing:

- Policy HOUSING 1.1: Maintain adequate sites to achieve Davis' RHNA goals for the 2021-2029 Planning Period.
- Policy HOUSING 1.2: Facilitate the production of a variety of housing types that meet the housing needs of an economically and socially diverse Davis.
- Policy HOUSING 1.3: Provide housing that accommodates a variety of housing needs, including for persons with disabilities, seniors, farmworkers, extremely low-income households.
- Policy HOUSING 1.5: Facilitate and monitor the production of Accessory Dwelling Units (ADUs).
- Policy HOUSING 2.1: Meet the projected local need for housing affordable to extremely low-, very low-, low-, and moderate-income households according to Davis' eight-year fair share of regional housing needs.
- Policy HOUSING 2.2: Actively fund affordable housing production and preservation to meet high-priority housing needs.

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- Policy HOUSING 2.3: Leverage available resources to facilitate the production of affordable housing and to assist lower-income households with securing and maintaining housing.
- Policy HOUSING 2.4: Assist with increasing awareness of affordable housing opportunities and provide access to information regarding affordable housing opportunities.
- Policy HOUSING 2.5: Allow by-right housing on previously identified housing sites for projects with at least 20 percent affordable housing.
- Policy HOUSING 2.7: Address the housing needs of those who are homeless, transitioning out of homelessness, and at risk of homelessness.
- Policy HOUSING 4.1: Facilitate the production of housing for households at all income levels by streamlining the development process.
- Policy HOUSING 4.2: Ensure that developers have access to information on standards for residential development in Davis.
- Policy HOUSING 5.1: Ensure that existing housing stock is maintained in sound condition and up to code requirements.
- Policy HOUSING 5.2: Protect lower-income households from displacement and maintain the existing affordable housing stock by preserving existing housing units that serve lower-income households.
- Policy LU A.1: In infill projects, respect setback requirements, preserve existing greenbelts and greenstreets, and respect existing uses and privacy on adjacent parcels.
- Policy LU A.3: Require a mix of housing types, densities, prices rents, and designs in each new development area.
- Policy LU D.1: Encourage the redevelopment of existing neighborhood shopping centers to include second stories for retail, residential or office uses and/or intensification of first stories.
- Policy LU 1.5: Aggressively work to prevent urban sprawl on the periphery of Davis and in the region utilizing a variety of legislative/legal methods and strategic land acquisitions.
- Policy LU-1.7: Plan for the timing and costs of infrastructure when developing new areas. The planning process shall include working with public transit providers and the Davis Joint Unified School District.

City of Davis Core Area Specific Plan

The Core Area Specific Plan was adopted by the City of Davis in 1996 for the downtown Core Area and adjacent areas. Its purpose was to provide a comprehensive set of policies, guidelines and implementation strategies for promoting, guiding, and regulating growth in the Core Area. The intent of the Core Area Specific Plan was to allow the area to continue to function as the City's social, cultural, retail center, and professional and administrative office district in a manner that enhanced pedestrian activity. The Core Area Specific Plan established the strategies which were required for the systematic execution of the City's General Plan for the area covered by the Core Area Specific Plan. It envisioned an increase of approximately 186,000 square feet of retail space and an increase of 125,000 square feet of office space in the Core Area for a total of 662,000 square feet of retail space and 432,000 square feet of office space. There would be a modest increase of residential units in the Core Area from 506 units to 681 units. The

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Core Area Specific Plan would be updated and replaced by the proposed project, the Downtown Davis Specific Plan. The following Guiding Policy listed in the Core Area Specific Plan is currently applicable to in the project area:

- Guiding Policy 2.5G: Add apartments in the Core.

City of Davis Municipal Code

The purpose of Chapter 40, Zoning, of the City of Davis Municipal Code, is to be used as a detailed plan for the use of land in the City based on the master plan for the city and is enacted in order to promote the public health, safety, morals, comfort, and general welfare throughout the city.

The Phased Allocation Ordinance, as indicated in Section 18.01.05, Development Proposal – Applications, of the Davis Municipal, provides for orderly development through the annual adoption of a resolution by the City Council which designates the total number of units to be constructed in the fifth year following adoption of the resolution. The resolution may adjust the allocations, made by previous resolutions, for the first through fourth years following the resolution. The City Council’s determination is based upon criteria set forth in the Phased Allocation Ordinance. To receive an allocation, a developer must submit an application in accordance with the ordinance, which requires a master plan sketch map and an internal project phasing plan for both single-family and multi-family units. Exceptions to the Phased Allocation Ordinance, as indicated in Section 18.01.030, include projects such as multifamily rental development, small urban parcels, low income housing projects, and projects located in the core area.

The purpose of Article 18.05, Affordable Housing, of the City of Davis Municipal Code, is to provide a range of housing for its local workers and ensure that affordable housing is constructed and maintained within the City.

4.11.1.2 EXISTING CONDITIONS

Population

Table 4.11-1, *Population Trends in the City of Davis*, shows the population trends from 2010 to 2020, which has varied over the years. As mentioned in the Downtown Specific Plan, there are currently 1,083 residents in the Specific Plan Area.

TABLE 4.11-1 POPULATION TRENDS IN THE CITY OF DAVIS

Year	City of Davis	
	Population	Percent Change
2010	64,842	0%
2011	65,359	0.79%
2012	65,616	0.39%
2013	65,770	0.23%
2014	66,093	0.49%
2015	66,510	0.63%

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City of Davis		
Year	Population	Percent Change
2016	66,886	0.56%
2017	67,500	0.91%
2018	67,988	0.72%
2019	69,179	1.72%
2020	69,183	0.01%

Source: US Census 2010; DOF 2020a

Housing

Housing Growth Trends

Table 4.11-2, *Housing Growth Trends in the City of Davis*, shows the rate of housing growth from 2010 to 2020, which has varied over the years. There are 506 units in the Specific Plan Area, according to the Downtown Davis Specific Plan.

TABLE 4.11-2 HOUSING GROWTH TRENDS IN THE CITY OF DAVIS

City of Davis		
Year	Housing Units	Percent Change
2010	25,502	0%
2011	25,238	-1.05%
2012	25,076	-0.65%
2013	25,175	0.39%
2014	25,481	1.20%
2015	25,381	-0.39%
2016	25,602	0.86%
2017	25,642	0.16%
2018	25,732	0.35%
2019	26,932	4.46%
2020	27,024	0.34%

Source :US Census 2018a; DOF 2020b

Regional Housing Needs Assessment (RHNA)

As shown in Table 4.11-3, *City of Davis 2021-2029 Regional Housing Needs Assessment*, the City of Davis' RHNA allocation for the 2021-2029 planning period is 2,075 dwelling units.

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TABLE 4.11-3 CITY OF DAVIS 2021-2029 REGIONAL HOUSING NEEDS ASSESSMENT

City of Davis		
Income Category	Number of Units	Percent Change
Extremely Low	290	14.0%
Very Low	290	14.0%
Low	350	16.9%
Moderate	340	16.4%
Above Moderate	805	38.8%
Total Allocation	2,075 dwelling units	100%
Source: Davis 2021		

Employment

Employment Trends

According to the California Employment Development Department, the growth rate of employment in the City of Davis increased throughout 2010 to 2019. The City of Davis employment and annual percentage changes are shown in Table 4.11-4, *City of Davis Employment Trends*. According to the Downtown Davis Specific Plan, there are 2,482 jobs in the Specific Plan Area.

TABLE 4.11-4 CITY OF DAVIS EMPLOYMENT TRENDS

City of Davis		
Year	Employment (persons)	Percent Change
2010	31,100	0%
2011	31,000	-0.32%
2012	31,400	1.27%
2013	31,900	1.57%
2014	32,300	1.24%
2015	32,900	1.82%
2016	33,500	1.79%
2017	33,900	1.18%
2018	34,400	1.45%
2019	34,800	1.15%
Source: EDD 2020		

Existing Employment

Table 4.11-5, *City of Davis; Industry by Occupation (2010 and 2018)*, shows the City's total workforce by occupation and industry in 2010 and 2018. According to the estimates calculated by the US Census, the City of Davis had an employed civilian labor force (16 years and older) of 31,264 in 2010 and 32,530 in 2018. The three largest occupational categories in 2010 were Educational Services, and Health Care and Social Assistance; Professional, Scientific, and Management, and Administrative and Waste Management

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services; and Retail trade; and in 2018 were Educational Services, and Health Care and Social Assistance; Professional, Scientific, and Management, and Administrative and Waste Management services; and Art, Entertainment, and Recreation, and Accommodation and Food Services.

TABLE 4.11-5 CITY OF DAVIS; INDUSTRY BY OCCUPATION (2010 AND 2018)

Industry/Occupation	Number of Employees in 2010	Number of Employees in 2018	Percent Change
Agriculture, forestry, fishing and hunting, and mining	148	314	112.16%
Construction	824	482	-41.50%
Manufacturing	1,109	1,437	29.58%
Wholesale Trade	282	310	9.93%
Retail trade	2,941	2,081	-29.24%
Transportation and warehousing, and utilities	658	867	31.76%
Information	638	543	-14.89%
Finance and insurance, and real estate and rental and leasing	1,086	1,361	25.32%
Professional, scientific, and management, and administrative and waste management services	3,969	4,127	3.98%
Educational services, and health care and social assistance	13,990	14,135	1.04%
Arts, entertainment, and recreation, and accommodation and food services	2,549	3,914	53.55%
Other services, except public administration	884	807	-8.71%
Public administration	2,186	2,152	-1.56%
Total	31,264	32,530	-

Source: US Census 2018b

Growth Projections

Sacramento Area Council of Governments

SACOG undertakes regional planning with an emphasis on transportation. The 2020 RTP/SCS provides projections of population, housing units, and employment for the City of Davis. Based on their share of California's and the region's employment growth, migration and immigration trends, and birth rates, SACOG projects the population, housing, and employment will grow in the City of Davis. These projections are summarized in Table 4.11-6, *SACOG Growth for the City of Davis*. It should be noted that the estimates used in Tables 4.11-4, 4.11-5, and 4.11-6 were calculated by different sources including the Department of Employment and Development, the US Census Bureau and SACOG, respectively. Each agency uses a different methodology to produce these estimates, resulting in some differences.

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TABLE 4.11-6 SACOG GROWTH FOR THE CITY OF DAVIS

	City of Davis		
	2020	2036	2040
Population	71,136	76,884	77,490
Housing Units	26,531	28,267	29,528
Employment	17,131	19,877	25,037
Jobs-Housing Ratio	0.65	0.70	0.85

Source: SACOG 2016 and SACOG 2019

Jobs-Housing Ratio

The jobs-housing ratio is a general measure of the number of jobs versus housing in a defined geographic area, without regard to economic constraints or individual preferences. The jobs-housing ratio as well as the type of jobs versus the price of housing, has implications for mobility, air quality, and the distribution of tax revenues. A project's effect on the jobs-housing ratio is one indicator of how it will affect growth and quality of life in the area of a proposed project. SACOG applies the jobs-housing ratio at the regional and subregional levels in order to analyze the fit between jobs, housing, and infrastructure. A main focus of SACOG's regional planning efforts has been to improve this balance; however, jobs-housing goals and ratios are only advisory. There is no ideal jobs-housing ratio adopted in state, regional, or city policies. The American Planning Association (APA) is an authoritative resource for community planning best practices, including recommendations for assessing jobs-housing ratios. Although APA recognizes that an ideal jobs-housing ratio will vary across jurisdictions, its recommended target is 1.5, with the recommended range of 1.3 to 1.7 (Weitz 2003).

4.11.1.3 PLANS, PROGRAMS, AND POLICIES

Downtown Davis Specific Plan

The proposed Downtown Davis Specific Plan contains the following implementation actions pertaining to housing:

- **Action 4.** Create an Economic Development Plan for a resilient, diversified Downtown economy.
 - **Methodology/Steps 4H.** Explore strategies to establish a stronger economic relationship with UC Davis, partnership on projects to provide more employment and housing in Downtown.
- **Action 6.** Provide a variety housing in Downtown and increase housing access and affordability.
 - **Methodology/Steps 6A.** Make Downtown an attractive and attainable place to live for different demographics by encouraging housing production at all levels, including both rental and for-sale units.
 - **Methodology/Steps 6C.** Evaluate the City's Affordable Housing strategy and make improvements as needed to stimulate the production of affordable units at all levels.
 - **Methodology/Steps 6D.** Continue to require affordable housing from new development.

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- **Methodology/Steps 6E.** Evaluate Downtown regulations and fee structure to incentivize private development to produce smaller, affordable-by-design housing units including microunits, in addition to those being currently produced.
- **Methodology/Steps 6F.** Continue to implement and evaluate updates to the City's Affordable Housing Ordinance to promote long-term housing affordability.

4.11.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact to population and housing if it would:

1. 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 road or other infrastructure).
2. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

4.11.3 IMPACT DISCUSSION

PH-1	Implementation of the proposed project would not induce substantial unplanned population growth in the Specific Plan Area, either directly or indirectly.

The following describes potential impacts associated with construction and operation of up to 1,000 new dwelling units and 600,000 square feet of non-residential uses. The physical impacts of accommodating the proposed population and employment of the proposed project are discussed in Sections 4.1 through 4.13 of this DEIR.

Construction

Construction of future projects in the Specific Plan Area would require contractors and laborers. Because full buildout in the Specific Plan Area would likely be phased over many years, and due to the size of the proposed project, the City expects that the supply of general construction labor would be available from the local and regional labor pool and therefore, additional worker housing would not be needed. Development of the proposed project would not result in a long-term increase in employment from short-term construction activities.

Population

As shown in Table 3-3, *Downtown Davis Specific Plan Proposed Development Program by Neighborhood*, in Chapter 3, *Project Description*, future development allowed under the proposed project would result in approximately 2,160 new residents if a total of 1,000 dwelling units were to be constructed. When compared to the 2020 estimated population of 69,183 people, future development of the proposed project would result in an approximately 3.1 percent increase of the 2020 population in the City of Davis,

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and would result in an approximately 50 percent increase of the existing 1,083 dwelling units in the Specific Plan Area.

As shown in Table 4.11-6, SACOG's 2040 estimated population for the City is 77,490, which is an increase of 8,307 residents from the California Department of Finance (DOF) 2020 estimated population of 69,183 residents. The potential 2,160 residents would make up approximately 2.8 percent of the 2040 population projection for the City. If the population as a result of project implementation is added to the 2020 population estimate, the resulting estimated population of 71,343 residents, which assumes all of the proposed project's residents are new to the City, the estimated population would not exceed the SACOG year 2040 projection. The RHNA associated with the statewide housing crisis has created an expectation that population projections for the region and for the City will change, as such an increase in housing units is required to meet population growth. While it is possible that some of the residents could come from within the City of Davis thereby, reducing the persons per unit and increasing the vacancy rate, it is unlikely that all the residents of the proposed project will be from the City. Nonetheless, as the proposed population growth as a result of the proposed project would not exceed SACOG's projections, this impact is considered less than significant.

Housing

The proposed project would allow for more housing opportunities to be provided in the City. The new units facilitated by the project would increase housing in the City by 3.7 percent compared to the DOF 2020 housing estimate of 27,024 units (see Table 4.11-2), and would represent approximately 3.4 percent of the SACOG 2040 housing projection. Compared to the number of housing units in 2020, SACOG projects that the number of housing units would increase by 2,504 by 2040. The maximum buildout of 1,000 new units would exceed SACOG's 2020 housing projection of 26,531 units by 1,493 units if added to the existing (DOF 2020) number of housing units in the City. However, the state of California has a shortage of housing units, and the State has enacted several laws in recent years aimed to address the need for more housing, including amendments to the Housing Accountability Act and the Housing Crisis Act of 2019. The proposed project would address the need for additional housing to accommodate population growth in the City and help the City meet its RHNA. Additionally, as indicated in Chapter 8, Implementation, of the Downtown Davis Specific Plan, the Plan will continue to require affordable housing from new development pursuant to the City's Affordable Housing Ordinance, evaluate the City's Affordable Housing strategy and make improvements to stimulate the production of affordable units at all levels, and continue to implement and evaluate the City's Affordable Housing Ordinance to promote long-term housing affordability.

Employment

Future development as a result of the proposed project would result in an increase in 600,000 square feet of non-residential uses and would be expected to add 1,714 employees. When compared to EDD's 2019 estimated employment of 34,800 employees, the proposed project would result in an approximately 4.9 percent increase in employees in the City of Davis. It should be noted that SACOG's 2040 projected employment for the City is 25,037 employees which is considerably smaller than EDD's estimate of current employment. UC Davis is not located within the City of Davis, and therefore, is not included in SACOG's employment figures. UC Davis is the largest employer in the immediate Davis area and broader Yolo County; there are 24,629 employees at UC Davis (Davis 2021). The potential 1,714 new employees as

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a result of maximum buildout of the proposed project would make up 6.8 percent of the 2040 employment projection. If the maximum employment of the proposed project is added to the existing estimate of 34,800 employees, the resulting employment of 36,514 employees would exceed the SACOG 2040 projection by 11,477 employees, assuming all employees would be new to the City. With the regional unemployment rate of 8.6 percent it is likely that many of the jobs will come from the existing community, and even if all jobs are new to the City, the addition of 1,000 housing units would help offset the increase in employment as it would create a more balanced jobs-housing ratio (see below). Because of the mixed-use nature of the proposed project that include housing that would be suitable for employees of the proposed project, the potential to generate jobs is not considered a significant impact.

Jobs-Housing Balance

A project's effect on the jobs-housing balance is an indicator of how it will affect growth and quality of life in the area of a proposed project. Because the jobs-housing ratio for the City is jobs-poor (0.65 jobs per unit in 2020 and 0.85 jobs per unit in 2040; see Table 4.11-6), the increase in the jobs-housing ratio from the potential 1,000 dwelling units and 1,714 jobs would be a slightly favorable result from a planning perspective (1.31 jobs per unit¹) because the proposed project would allow for more housing and jobs in the City.

Summary

The proposed project would be able to physically accommodate the increase in population growth. The projected increase in housing would help alleviate the state's housing shortage by providing housing and jobs proximate to Davis' employment centers. The creation of new jobs in the City could help address the City's unemployment rate of 8.6 percent. The increase in jobs and housing would create a more balanced ratio between the two, from a planning perspective. Additionally, as the proposed project is not extending infrastructure to a new area, the indirect inducement of substantial population growth would not occur.

Based on the above, the proposed project would not induce substantial unplanned population growth in the City, either directly or indirectly.

Significance Without Mitigation: Less than significant.

¹ 1,000 units (proposed) + 26,932 (2019 existing units) = 27,932 units
1,714 jobs (proposed) + 34,800 (2019 existing jobs) = 36,514 jobs
36,514 / 27,932 = 1.307 = 1.31

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PH-2 Implementation of the proposed project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

The Specific Plan Area encompasses residential, commercial, office, and open space uses. Future development under the proposed project would occur within the boundaries of the Specific Plan Area would be initiated voluntarily by property owners. The adoption of the project would not directly displace existing people or housing. While there could be a loss of units in individual projects to accommodate future development under the Specific Plan, the proposed project would result in an overall net increase of approximately 1,000 new housing units in the Specific Plan Area. Additionally, Policy HOUSING 5.2 calls for the protection of lower-income households from displacement and preserving the existing affordable housing stock, which would prevent the displacement of people and housing. Therefore, impacts would be less than significant.

Significance Without Mitigation: Less than significant.

4.11.4 CUMULATIVE IMPACTS

PH-3 Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to population and housing.

The geographic area considered for cumulative impacts is the City of Davis. Impacts are analyzed using projections in the SACOG's 2020 RTP/SCS Growth Forecast. Related projects would be reviewed by the City, and development would be required to be consistent with adopted state regulations as well as the development standards and guidelines of the Specific Plan and Downtown Code to minimize the effect of the increase in population on physical impacts on the environment. The housing crisis has resulted in a substantial increase in regional housing needs that have exceeded the SACOG projections. As a result, the proposed project will generate growth in housing and employment that is beyond the existing RTP/SCS. However, as a project that would result in a mix of uses within an existing established downtown area, the proposed project will help the City meet its regional housing obligation and provide employment for new residents. Therefore, the proposed project combined with related projects (see Table 4-1, *Reasonably Foreseeable Development Projects in Davis*) would not result in cumulatively considerable impacts to population and housing, such as the physical impacts as a result of the displacement of housing or people, or substantial population growth.

Significance Without Mitigation: Less than significant.

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4.11.5 REFERENCES

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PUBLIC SERVICES AND RECREATION

4.12 PUBLIC SERVICES

This chapter describes public services, including fire protection, police, schools, libraries, and park and recreation services provided in the project vicinity, and evaluates the potential impacts to these services that could result from the proposed project. In each section, a summary of the relevant regulatory setting and existing conditions are followed by a discussion of project-specific and cumulative impacts.

This chapter contains separate sections for the following services:

- Fire Protection
- Police
- Schools
- Libraries
- Parks and Recreation

4.12.1 FIRE PROTECTION SERVICES

4.12.1.1 ENVIRONMENTAL SETTING

This section describes the current regulations, resources, and response time for fire protection services in the City of Davis.

Regulatory Framework

State Regulations

California Building Code

The State of California provides a minimum standard for building design through Title 24 of the California Code of Regulations. The California Building Code (CBC) is located in Part 2 of Title 24. The CBC is updated every three years, and the current 2019 CBC went into effect in January 2020. The City of Davis adopted the CBC into its Municipal Code. Commercial and residential buildings are plan-checked by City building officials for compliance with the CBC. Typical fire safety requirements of the CBC include the establishment of fire resistance standards for fire doors, building materials, and particular types of construction, and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas.

California Fire Code

The 2019 California Fire Code (CFC) adopts by reference the 2018 International Fire Code (IFC) with necessary State amendments. Updated every three years, the CFC contains regulations related to construction, maintenance and use of buildings. The CFC includes provisions and standards for emergency planning and preparedness, fire service features, fire protection systems, hazardous materials, fire flow

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requirements, and fire hydrant locations and distribution. The 2019 CFC, with local amendments, was adopted by the City of Davis into its Municipal Code in 2019.

Local Regulations

City of Davis General Plan

The City of Davis General Plan, amended in 2007, includes goals, policies, and programs relevant to fire protection services. The General Plan includes the following goals and policies specific to fire protection and applicable to the proposed project:

Goal POLFIRE 1. Provide high quality police and fire protection services to all areas of the City.

Policy POLFIRE 1.1 Recruit and maintain a staff of high-quality police officers and firefighters.

Policy POLFIRE 1.2 Develop and maintain the capacity to reach all areas of the City with emergency police and fire service within a five minute emergency response time, 90% of the time. Response time includes alarm processing, turnout time and travel time.

Goal POLFIRE 3. Increase fire safety through provision of adequate fire protection infrastructure, public education and outreach programs.

Policy POLFIRE 3.1 Provide adequate infrastructure to fight fires in Davis.

Policy POLFIRE 3.2 Ensure that all new development includes adequate provision for fire safety.

Standards

- a. All new development shall comply with the first safety requirements of the California Fire Code and California Building Code as adopted by the City of Davis.
- b. All new development shall provide water mains and hydrants to create fire service.
- c. All new development shall provide roadway access to create adequate fire service. Roadways surfaces shall support fire apparatus in all weather conditions.

Policy POLFIRE 3.3 Make fire protection services visible and accessible to Davis residents.

Yolo County Multi-Jurisdictional Hazard Mitigation Plan

The 2018 Yolo County Operational Area Multi-Jurisdictional Hazard Mitigation Plan (HMP) was developed with the intent of establishing an inter-jurisdictional process for the development and implementation of effective hazard mitigation strategies in association with identified hazards that pose real or potential threats to the Yolo Operational Area (YOA). The YOA include the Cities of Davis, West Sacramento, Winters, Woodland, Yocha Dehe Wintun Nation, Housing Authority of the County of Yolo, and unincorporated areas of Yolo County. The plan identifies and evaluates specific local hazard mitigation strategies to be considered by the YOA and associated planning support for those strategies developed by its political subdivisions, agencies, special districts and organizations (County of Yolo 2018).

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City of Davis Municipal Code

The City of Davis Municipal Code organized by Title, Chapter, and Section, contains all ordinances for the City. Most provisions relating to fire protection services are as follows:

- **Chapter 13 Fire Code:** This chapter adopts the 2019 California Fire Code (CFC), with local amendments as set forth in Section 13.01.040. The CFC sets forth requirements including emergency access, emergency egress routes, interior and exterior design and materials, fire safety features including sprinklers, and hazardous materials.

Existing Conditions

The City of Davis Fire Department is staffed by 36 shift personnel (9 captains and 27 firefighters); the department's facilities include three fire stations located in Central, West, and South Davis (Davis 2021a). The Davis Fire Department Headquarters is located at 530 Fifth Street in the Specific Plan Area. Department apparatus consists of 3 engines, 1 rescue, 1 squad, 2 grass/wildland units, 1 water tender, 2 reserve engines, 3 command vehicles, 2 fire prevention staff vehicles, and 2 antique fire apparatus. The Fire Department has contractual agreements with the East Davis County Fire Protection District, the Springlake Fire Protection District, and the No Man's Land Fire Protection District for emergency response to these areas (Davis 2021a).

The Department has an automatic aid agreement with the Cities of Woodland, West Sacramento, and Dixon and a mutual aid agreement with all other fire protection agencies in Yolo County and the State of California (Davis 2021a).

The City relies on a total response time goal of responding to calls for service within 6:00 minutes for Emergency Medical Services (EMS) calls and 6:20 minutes for fire calls, 90 percent of the time, consistent with the National Fire Protection Agency (NFPA) 1710. The 6:20 minute response time goal for fire calls and NFPA 1710 were adopted by City Council in January 2013 (City of Davis 2013).

4.12.1.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact related to fire protection if it would:

- Result in substantial adverse physical impacts associated with the provision of or need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.

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4.12.1.3 IMPACT DISCUSSION

PS-1	The project would not result in the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.

Fire vehicles, equipment, service personnel, and expansion of existing facilities are funded from the City's General Fund. Fire protection service is evaluated and addressed annually on a city-wide level by the Davis City Council and Fire Chief. The City Council adopts an annual budget allocating resources to fire protection services, which effectively establishes the service ratio for that particular year. The annual budget is based on community needs and available resources as determined by the City Council and the Fire Chief. Additionally, the City of Davis has adopted citywide development impact fees, which include Public Safety Impact Fees. In accordance with existing law, prior to issuance of any building permits for any phase of development, the project applicant shall pay the City's Public Safety Impact Fees. Development impact fees can be adjusted by the City, as needed. Additionally, funding from property taxes would be expected to grow proportional to new residential and non-residential development in the Specific Plan Area.

New multi-story buildings under the proposed project could necessitate use of a ladder truck in the event of a fire emergency and contribute to the demand. Currently, the City has an aid agreement with UC Davis Fire, which operates a 100-foot ladder truck. On January 11, 2022, the Davis City Council authorized the purchase of an aerial ladder truck to serve existing and future needs of the city. It necessitates modifications to Station 31, which is located in the Specific Plan area, to accommodate the ladder truck. The anticipated growth under the Specific Plan would occur over a 20-year time horizon and future development projects would be reviewed by the City of Davis and the Davis Fire Department on an individual basis to ensure compliance with requirements in effect at the time building permits are issued. Ensuring that adequate fire facilities, infrastructure, and access are provided to serve the needs of the Davis Fire Department would be assessed during the development review and permit process. Additionally, future projects would be required to comply with the adopted Fire Code and Building Code to reduce potential fire hazards and to pay any necessary development impact fees related to Fire safety services and facilities. Because the Specific Plan Area is largely developed and is currently served by the Davis Fire Department with a Station 31 located within the Specific Plan area to meet the response time goal, there would not be a substantial increase in demand for fire protection services such that new facilities would be required. The additional demand for fire services generated by the proposed project would be satisfied through the City's General Fund and impact fees. Therefore, impacts related to construction of new or physically altered fire protection facilities would be less than significant.

Significance Without Mitigation: Less than significant.

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4.12.1.4 CUMULATIVE IMPACTS

PS-2 The project, in combination with past, present and reasonably foreseeable projects, would not result in cumulative impacts with respect to fire protection services.

Growth within the Specific Plan Area, and within the rest of the City, would increase demand for fire protection and emergency services. Future projects would pay impact fees, property, sales, and utility taxes, and fees supporting the City's General Fund, part of which would be available for the Davis Fire Department's operations and construction of new and/or expanded fire stations. While future development under the proposed project would increase development intensity in the Downtown, compliance with current fire codes would increase fire safety of new buildings and reduce the potential effects on fire department resources. As noted previously, the Specific Plan Area is currently served by the Davis Fire Department and specifically with Station 31, which is located within the Specific Plan Area, and modifications to Station 31 will be needed to accommodate the 100-foot ladder truck authorized by the Davis City Council. New development is required to pay impact fees, which may be adjusted as needed, for their share of public safety impacts such as the facility improvements. The existing or modified facilities would continue to serve the Specific Plan Area and other areas in the Davis Fire Department's service area for fire protection. Consequently, the proposed project's contribution to physical effects related to the provision of fire protection services would be less than cumulatively considerable.

Significance Without Mitigation: Less than significant.

4.12.2 POLICE SERVICES

This section describes regulations, resources, and response times for police protection and public safety services in the City of Davis.

Regulatory Framework

There are no federal or State regulations pertaining to law enforcement that apply to the proposed project.

City of Davis General Plan

The City of Davis General Plan includes goals, policies, and programs relevant to police services and applicable to the project.

Goal POLFIRE 1. Provide high quality police and fire protection services to all areas of the City.

Policy POLFIRE 1.1 Recruit and maintain a staff of high-quality police officers and firefighters.

Policy POLFIRE 1.2 Develop and maintain the capacity to reach all areas of the City with emergency police and fire service within a five-minute emergency response time, 90% of the time. Response time includes alarm processing, turnout time and travel time.

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Goal POLFIRE 2. Provide for an emotionally and physically safe environment where the people of Davis are able to live without fear of violence or other forms of abuse.

Policy POLFIRE 2.1 Reduce crime through community policing, public education, crime prevention, neighborhood watch and outreach programs.

Existing Conditions

The Davis Police Department is currently staffed with 95 full-time employees, consisting of 61 sworn police officers 34 civilian support professionals, and over 60 Volunteers in Police Services (VIPS) (City of Davis 2022). (City of Davis 2020). The Davis Police Department is located at 2600 5th Street, approximately 1 mile east of the Specific Plan Area. The 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. According to Policy POLFIRE 1.2 of the General Plan, the goal response time for police protection service is a five-minute emergency response time 90 percent of the time.

To maximize resources and ensure all 10.5 square miles of Davis are patrolled, the City is divided into four patrol beats: Beat 1 (West Davis), Beat 2 (Central/Downtown Davis), Beat 3 (East Davis), and Beat 4 (South Davis) (Davis 2018). The Specific Plan Area is located in Beat 2.

4.12.2.2 STANDARD OF SIGNIFICANCE

The proposed project would result in a significant impact related to police protection if it would:

- Result in substantial adverse physical impacts associated with the provision of or need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.

4.12.2.3 IMPACT DISCUSSION

PS-3	The project would not result in the need for new or physically altered police facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.

Funding for additional police facilities, equipment, and officers would come from the City's General Fund. Funding from property taxes, as a result of population growth, would be expected to grow roughly proportional to any increase in residential or non-residential development in the Specific Plan Area. The anticipated growth under the Specific Plan would occur over a 20-year time horizon. Funding from property taxes, as a result of population growth, would be expected to grow roughly proportional to any increase in development in the Specific Plan Area. Additionally, the City of Davis has adopted citywide development impact fees, which include Public Safety Impact Fees. In accordance with existing law, prior to issuance of any building permits for any phase of development, the project applicant shall pay the

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City's Public Safety Impact Fees. Development impact fees can be adjusted by the City, as needed. Although the increase in population from the project would be expected to result in a proportional increase in service calls, the City and Davis Police Department would review future development on an individual basis to ensure safety measures are implemented, as applicable. The additional demand for police services generated within the Specific Plan Area would be satisfied through the General Fund. Because the Specific Plan Area is largely developed and is currently served by the Davis Police Department, there would not be a substantial increase in demand for police protection services such that new facilities would be required. The additional demand for police services generated by the proposed project would be satisfied through the City's General Fund and impact fees. Therefore, impacts related to construction of new or physically altered police protection facilities would be less than significant.

Significance Without Mitigation: Less than significant.

4.12.2.4 CUMULATIVE IMPACTS

PS-4	The project, in combination with past, present and reasonably foreseeable projects, would not result in cumulative impacts with respect to police services.

Growth within the Specific Plan Area, and within the rest of the City, would increase demands for police services. Future projects would pay impact fees, property, sales, and utility taxes and fees supporting the City's General Fund, part of which would be available for the Davis Police Department's operations and construction of new and/or expanded police stations. While future development under the proposed project would increase development intensity in the Downtown, compliance with minimum security requirements for buildings in the City's Security Ordinance (Davis Municipal Code Article 8.14) would help to reduce the security risks of new development and reduce the potential effects on police department resources. As noted previously, because the Specific Plan Area is currently served by the Davis Police Department, it is not expected that new facilities or substantial alterations to existing facilities would be required to continue to serve the Specific Plan Area. New development is required to pay impact fees, which may be adjusted as needed, for their share of public safety impacts for police protection services. Consequently, the proposed project's contribution to physical effects related to the provision of police protection services would be less than cumulatively considerable.

Significance Without Mitigation: Less than significant.

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4.12.3 SCHOOLS

This section describes the existing regulations and conditions with regard to schools serving the City of Davis, as well as the proposed project's potential impacts to schools.

4.12.3.1 ENVIRONMENTAL SETTING

Regulatory Framework

This section summarizes key State and local regulations related to schools. There are no federal regulations pertaining to schools that apply to the proposed project.

State Regulations

Senate Bill 50

Senate Bill (SB) 50, passed in 1998, limits the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development and provides instead for a standardized developer fee. SB 50 generally provides for a 50/50 State and local school facilities funding match. SB 50 also provides for three levels of statutory impact fees. The applicable level depends on whether State funding is available, whether the school district is eligible for State funding and whether the school district meets certain additional criteria involving bonding capacity, year-round school and the percentage of moveable classrooms in use.

SB 50 amended California Government Code Section 65995, which contains limitations on Education Code Section 17620, the statute that authorizes school districts to assess development fees within school district boundaries. Government Code Section 65995(b)(3) requires the maximum square footage assessment for development to be increased every two years, according to inflation adjustments. Per California Government Code Section 65995, the payment of development fees authorized by SB 50 is deemed to be "full and complete mitigation" for the impacts of new development on school facilities.

Mitigation Fee Act (California Government Code 66000-66008)

Enacted as Assembly Bill (AB) 1600, the Mitigation Fee Act requires a local agency establishing, increasing, or imposing an impact fee as a condition of development to identify the purpose of the fee and the use to which the fee is to be put. The agency must also demonstrate a reasonable relationship between the fee and the purpose for which it is charged, and between the fee and the type of development plan on which it is to be levied. The Act came into force on January 1, 1989.

Mello-Roos Community Facilities Act

The Mello-Roos Community Facilities Act, Government Code Section 53311 et seq., provides an alternative method of financing certain public capital facilities and services through special taxes. This State law empowers local agencies to establish Community Facilities Districts (CFDs) to levy special taxes for facilities such as schools.

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Local Regulations

City of Davis General Plan

The City of Davis General Plan contains the Youth and Education Element, which includes goals, policies, and actions to encourage school districts to maintain and enhance existing educational opportunities. The following goals and policies are applicable to the proposed project:

Goal Y&E 8. Plan for the costs of new school facilities when planning for specific new residential development.

Policy Y&E 8.1 It shall be the policy of the city to require to the extent legally permissible the full mitigation of school impacts resulting from new residential development within the boundaries of the city.

Goal Y&E 9. Construct new public schools to meet the needs of residential growth.

Policy Y&E 9.1 It shall be the policy of the City to take all legally permissible steps to ensure the full mitigation of impacts of new development on school facilities.

Existing Conditions

The Davis Joint Unified School District (DJUSD) provides educational services for the City, including the Specific Plan Area. DJUSD provides a variety of educational programs to approximately 8,500 students in grades TK-12. DJUSD's enrollment is currently below capacity, therefore, an increase in school-aged population would increase enrollment to a more sustainable level and could help to prevent school closures. DJUSD includes a diverse mix of options including: six neighborhood elementary schools and four choice elementary programs; three neighborhood junior high schools and one charter junior high schools; one comprehensive senior high school, a continuation high school, and a charter high school; as well as a K-12 school for independent study, a preschool program, and an adult school (DJUSD 2021). There are also several private schools in Davis that could serve the student population generated by the proposed project such as Davis Waldorf School, Saint James School, and Peregrine School. North Davis Elementary School, Holmes Junior High School, and Davis Senior High School. In November 2018, Davis voters passed Measure M, a \$150 million school facilities bond measure to upgrade schools for safety and 21st century learning. Table 4.12-1, *DJUSD School Enrollment*, shows the 2020-2021 school enrollment for each school within DJUSD.

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TABLE 4.12-1 DJUSD SCHOOL ENROLLMENT

School	2020-2021 Enrollment
Elementary Schools	
Birch Lane Elementary	538
Chavez Elementary	550
Fairfield Elementary	44
Korematsu Elementary	465
Montgomery Elementary	410
North Davis Elementary	514
Patwin Elementary	364
Pioneer Elementary	553
Willett Elementary	490
Davis School for Independent Study ¹	174
Total	4,102
Junior High Schools	
Da Vinci School ²	580
Emerson Junior High School	482
Harper Junior High School	607
Holmes Junior High School	651
Total	2,320
High Schools	
Davis Senior High School	1,756
King High School	42
Total	1,798

Source: CDE 2021

² Da Vinci School is a junior high (grades 7-8) and high school (grades 9-12).

4.12.3.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact related to schools if it would:

- Result in substantial adverse physical impacts associated with the provision of or need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.

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4.12.3.3 IMPACT DISCUSSION

PS-5	The project would not result in the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.

As future development in the Specific Plan Area would introduce growth, the increased demand for additional school facilities would be accommodated through the payment of development fees. Pursuant to California Government Code Section 65995(h), payment of the impact fee fully mitigates impacts to school facilities. Although increase demand for school facilities within schools in DJUSD could result in a potential impact, payment of impact fees in compliance with SB 50 would reduce the impacts to a less than significant level.

Significance Without Mitigation: Less than significant.

4.12.3.4 CUMULATIVE IMPACTS

PS-6	The project would not result in cumulative impacts with respect to school services.

The proposed project, in combination with other planned and approved projects in the DJUSD service area, would cumulatively increase student population in the district. Some future development projects in the City may include school sites, although as previously noted, DJUSD is currently below capacity and no new school sites are currently proposed. The environmental impacts associated with the development of future school sites would be evaluated individually by the DJUSD for project-specific and cumulative impacts as required by the State Board of Education and CEQA.

Per California Government Code Section 65996, the adoption of all or some combination of Mello-Roos taxes and SB 50 funding fully mitigates the potential cumulative impacts on school and related facilities. Funding is currently available from statewide school bonds. The existing funding mechanisms, bond measures within the school district, and compliance with Davis General Plan policies would reduce cumulative impacts on school facilities. Therefore, this impact would be less than significant, and the proposed project's contribution to this impact would be less than cumulatively considerable.

Significance Without Mitigation: Less than significant.

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4.12.4 LIBRARIES

4.12.4.1 ENVIRONMENTAL SETTING

Regulatory Framework

This section summarizes key State and local regulations related to libraries. There are no federal regulations pertaining to libraries that apply to the proposed project.

State Regulations

The Mello-Roos Community Facilities Act, Government Code Section 53311 *et seq.*, provides an alternative method of financing certain public capital facilities and services through special taxes. This State law empowers local agencies to establish Community Facilities Districts (CFDs) to levy special taxes for facilities such as libraries. Such districts exist within the City of Davis.

Local Regulations

The City of Davis General Plan contains the Art and Culture Element, which includes goals, policies, and actions to encourage adequate library facilities to serve the residents of the City. Implementation of the following policy would reduce impacts related to demand for library services:

Policy A&C 1.5 The City shall encourage Yolo County to compensate for the increased demand in library space and materials by using various expansion techniques, including, but not limited to, book mobiles and satellite facilities.

Existing Conditions

There are two libraries in the City of Davis that are part of the Yolo County Library system—the Mary L. Stephens – Davis Branch Library and South Davis Montgomery Branch Library, located 0.5-mile north and 1.1 miles east of the Specific Plan Area, respectively.

The Mary L. Stephens- Davis Branch Library was constructed in 1961, and renovated and expanded in 1994 and 2010. The building area is 35,225 square feet (0.46 square feet per capita), with no room for expansion of the building's perimeter footprint. The facility is heavily used and reaches seating and parking capacity on a daily basis. Deficiencies for the library that have been identified include the roof, systems and equipment replacement, plumbing, mechanical, and interior and exterior deficiencies. (Yolo County 2017)

The South Davis Montgomery Branch Library is a joint use facility within Marguerite Montgomery Elementary School. Only a small portion of the library space is available for public use. The facility is not adequate to serve the population in its vicinity. (Yolo County 2017)

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4.12.4.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact related to libraries if it would:

- Result in substantial adverse physical impacts associated with the provision of or need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.

4.12.4.3 IMPACT DISCUSSION

PS-7	The project would not result in the need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.

According to the Davis General Plan EIR, the ratio for library building size is 0.5 square feet/capita and minimum library materials is two volumes/capita, and staffing standards are one full-time staff member per 2,500 people in the service area (City of Davis 2000). The existing ratio of 0.46 square feet/capita does not currently meet the service threshold. The proposed project would result in a net increase of approximately 2,160 residents. As such, the proposed project would result in a need for an additional 1,080 square feet of building space and 4,320 volumes and would have an incremental impact on the existing ratio, but would not require additional full-time staff members. However, buildout of the proposed Specific Plan would occur over a 20-year buildout horizon, which would result in a gradual increase in demand for library services. Yolo County Library also provides a wide range of electronic and digitized resources that do not require physical library space. Funding would be required to provide the additional books to meet the service standard. Generally, impact fees are assessed on new development to help pay for public infrastructure required to accommodate future development. Funding for library services comes primarily from the property tax revenue as well as library fines and fees collected from patrons, and state, federal, or government aid. As development occurs, property tax revenue would grow proportionally with the property tax collections. Additionally, access to online resources, including eBooks and audiobooks, are available on the Yolo County Library system. Given the proposed project's relatively small increase in demand, if the proposed project would require new or physically altered library facilities, a facility could be accommodated in the 600,00 square feet of non-residential building space assumed for the proposed project. Such a project would be subject to subsequent environmental review, and would be required to comply with mitigation measures identified in this EIR for construction activities. . The impact is less than significant.

Significance Without Mitigation: Less than significant.

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4.12.4.4 CUMULATIVE IMPACTS

PS-8	The project would result in less-than-significant cumulative impacts with respect to the construction of library facilities.

Growth within the Specific Plan Area, and the rest of the City, would increase demands for library services. Future projects would pay property, sales, and utility taxes and fees supporting Yolo County Library, part of which would be available for the operations and development of new and/or expanded facilities. Future projects that are found by the City to require increases to library services would also be required to make fair-share payments to the City for increased resources. Cumulative impacts would be less than significant after payment of taxes, impact fees, and fair-share payments by future projects. Impacts of the proposed project would not be cumulatively considerable.

Significance Without Mitigation: Less than significant.

4.12.5 PARKS AND RECREATION

4.12.5.1 ENVIRONMENTAL SETTING

Regulatory Framework

This section summarizes key State and local regulations related to park and recreation services. There are no federal regulations pertaining to park and recreation services that apply to the proposed project.

State Regulations

1975 Quimby Act (California Government Code Section 66477)

The 1975 Quimby Act (California Government Code Section 66477) authorizes cities and counties to adopt ordinances requiring that developers set aside land, donate conservation easements, or pay fees for park improvements. Revenues generated through the Quimby Act cannot be used for operation and maintenance of park facilities. A 1982 amendment (AB 1600) requires agencies to clearly show a reasonable relationship between the public need for the recreation facility or parkland and the type of development project upon which the fee is imposed. Cities with a high ratio of park space to inhabitants can set a standard of up to 5 acres per 1,000 persons for new development. Cities with a lower ratio can only require the provision of up to 3 acres of park space per 1,000 persons. The calculation of a city's park space to population ratio is based on a comparison of the population count of the last federal census to the amount of City-owned parkland.

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Local Regulations

City of Davis General Plan

The City of Davis General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. The General Plan's Parks and Open Space Element provides guidance for preservation of the City's open spaces, as well as identify the parks and recreation facilities available to local residents. The Element contains the following selected goals and policies:

Goal POS 1. Provide ample, diverse, safe, affordable and accessible parks, open spaces and recreation facilities and programs to meet the current and future needs of Davis' various age and interest groups and to promote a sense of community, pride, family and cross-age interaction.

Policy POS 1.4 Make all parks, greenbelts, open space areas and recreation facilities attractive, safe and easy to maintain.

Goal POS 3. Identify and develop linkages, corridors and other connectors to provide an aesthetically pleasing and functional network of parks, open space areas, greenbelts and bike paths throughout the City.

Policy POS 3.1 Require creation of neighborhood greenbelts by project developers in all residential projects, in accordance with Policy LU A.5.

Goal POS 4. Distribute parks, open spaces and recreation programs and facilities throughout the City.

Policy POS 4.1 Preserve existing parks, greenbelts and open space areas.

Policy POS 6.2 Require dedication of land and/or payment of an in-lieu fee for park and recreational purposes as a condition of approval for subdivisions, as allowed by the Quimby Act (Government Code 66477).

Table 4.12-2, *Park Acreage per 1,000 Persons*, shows the parkland acreage and ratio per park type.

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TABLE 4.12-2 PARK ACREAGE PER 1,000 PERSONS

Park Type	1995 Park Acreage	1995 Ratio (Acres/1,000 Persons)	Future (2010) Park Acreage	Future Ratio (Acres/1,000 Persons)	Standard (Acres/1,000 Persons)	Acres Needed To Achieve Standard
Assumed Population	1995: 52,200		2010: 62,182 ¹			
Standard Recreation						
Community Parks	56.5	1.1	100.0	1.6	1.8	12.0
Neighborhood Parks	77.7	1.5	94.6	1.5	1.8	17.4
Mini Parks	7.8	0.2	8.8	0.1	0.2	3.6
Other Parks ²	5.8	0.1	5.8	0.1	1.2	68.8
Sub-Total	147.8	2.8	209.2	3.4	5.0	101.7
Special Use						
Special Use Parks, Study Areas	88.0	1.7	329.8	5.3	None	N/A
Greenbelts	151.8	2.9	151.8 ³	2.4	None	N/A
Sub-Total	239.8	4.5	481.6	7.7	None	N/A
TOTAL	387.6	7.4	690.8	11.1	N/A	N/A

Source: Davis 2000

Note: Some numbers do not sum due to rounding.

¹ The 2010 population projection is based on land use determinations by City Council in the General Plan Update. A population assumption of 64,300 was used in the Final Park and Recreation Facilities Master Plan approved by City Council on December 9, 1998.

² This category includes the existing Central Park (5.8 acres) and other future active parks and recreation areas, including the possibility of athletic fields, regional park or other facilities.

³ No projection for greenbelts is available. This does not necessarily mean that new greenbelts will not be developed.

Existing Conditions

The City maintains approximately 191.6 acres of community, neighborhood, and mini parks throughout the City, and there are 289.8 acres of special use parks (Civic Center Ball Fields, Davis Municipal Golf Course, Little League Park, Playfields Park, and Toad Hollow Dog Park), totaling to approximately 481 acres of parkland (Davis 2012).

There are 37 neighborhood and community parks in the City (City of Davis 2021b). There is approximately 5.7 acres of parks and plazas in the Specific Plan Area, including the five-acre Central Park. Civic Center Park and Cedar Park are respectively 525 feet north and 0.2-mile east of the Specific Plan Area.

4.12.6 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant recreation impact if it would:

1. 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.
2. Include recreational facilities or require the construction of expansion of recreational facilities which might have an adverse physical effect on the environment.

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4.12.7 IMPACT DISCUSSION

PS-9	The project would not 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.

There is no state or federal statute detailing how to calculate the City's level of park service. Additionally, there is no federal minimum level of park or recreation space. Typically, each jurisdiction determines the appropriate park standard based on the guidance provided by Section 666477 of the California Government Code, commonly referred to as the Quimby Act.

The City's park standard, set forth in the Parks and Open Space Element of the General Plan, is 1.8 acres of parkland per 1,000 persons for community and neighborhood parks, and a total of 5 acres of parkland per 1,000 persons for all types of parks. The 2020 population for the City of Davis is 69,183 residents. Therefore, a total of approximately 346 acres of parkland are needed to accommodate the 2020 population. The City currently has 191.6 acres of community parks, neighborhood parks, and mini parks, (excluding special use parks), which represents an existing deficit of 154.4 acres of parkland. Over the anticipated 20-year build out period the proposed project would result in a net increase of 2,160 residents in the Specific Plan Area, and therefore, approximately 11 acres of parkland would be required to accommodate the increase in residents and meet the City's park standard. Future development would be required to pay development impact fees and/or dedicate parkland or pay an in-lieu fee. Within the Specific Plan Area, Central Park would serve as the primary park and recreational area for Downtown residents. Central Park and other nearby parks would experience more use with an increase in residents within the Specific Plan Area. Furthermore, the Downtown Davis Specific Plan includes the following guiding policies intended to be used as a guide for decision makers to consider future actions in order to implement the Specific Plan goals, which would reduce impacts to existing facilities and create additional recreational facilities and parks:

- **Guiding Policy 5.1:** Establish a new public space and center for Downtown that is centrally located and programmatically different from Central Park, with supporting retail, civic, and cultural uses and activities.
- **Guiding Policy 5.2:** Use the new public space to actively promote the Downtown brand, such as a demonstration project of sustainability strategies.
- **Guiding Policy 5.3:** Introduce additional public spaces, such as pocket parks, plazas, and parklets on public land.
- **Guiding Policy 5.4:** Incentivize private developers to contribute to the improvement of the existing public realm, or to provide new publicly accessible spaces in their development projects.
- **Guiding Policy 5.5:** Design the public realm incorporating trees, green infrastructure, and shade strategies to support walking and cycling, as well as outdoor recreation and dining.
- **Guiding Policy 5.6:** Coordinate public realm improvements with new development projects for efficiency and potential time and cost savings.

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Additionally, Implementation Action 2, Create a Public Realm, and a New Central Public Space, include the following strategies:

- **Strategy 2A:** Follow the Specific Plan recommendations in Chapter Four: Built Environment and Chapter Six: Mobility and Parking, to create the Downtown public realm as a cohesive network of streetscapes, parks, plazas, and pedestrian alleys with integrated design features for wayfinding.
- **Strategy 2B:** Create new public spaces as recommended in the Specific Plan, including spaces for both passive and active recreation, and integrating universal design features for them to be attractive and well-used by people of all ages and abilities.
- **Strategy 2C:** Create a new central public space by transforming the existing E Street Plaza into Dais Square, and create additional small plazas and parklets on public land as described in Chapter Four: Built Environment.
- **Strategy 2D:** On privately owned parcels, incentivize the provision of publicly accessible open space and require the provision of such space in parcels of a certain size, as defined in the Downtown Code.
- **Strategy 2E:** Develop a well-crafted program of activities and events to activate existing public spaces, and introduce new complementary uses to attract a diverse set of visitors to Downtown.

With payment of impact fees and/or dedication of parkland and implementation of the Specific Plan policies, impacts related to recreational facilities would be less than significant.

Significance Without Mitigation: Less than significant.

PS-10	The project would not result in the need for new or physically altered park facilities or other recreational facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.

With the addition of the proposed project's park demands, a total of 357 acres of parkland would be needed to accommodate the existing and proposed demand and meet the City's park standard. The City currently has 191.6 acres of parkland which would result in a deficit of parkland, however, this does not include special use parks. With the inclusion of special use parks, the City would have a total of 481 acres, which would exceed the existing and proposed park demand by approximately 124 acres. Additionally, with the payment of development fees and compliance with the policies and strategies in the Downtown Davis Specific Plan, the project would not result in the need for new or physically altered park or recreational facilities.

Development and operation of future new or expanded parks and recreational facilities may have an adverse physical effect on the environment, including impacts relating to air quality, biological resource, lighting, noise, and traffic. Future development of new or expanded park and recreational facilities would require subsequent environmental review for the individual developments. Additionally, as indicated above, the Downtown Davis Specific Plan includes policies and strategies that encourage the creation of new public spaces and parks which would reduce impacts to existing facilities and create additional recreational facilities and parks. However, no new park or recreational facilities within the Specific Plan

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area or specifically related to it are currently anticipated or proposed. Compliance with applicable laws and regulations would ensure potentially adverse impact to the environment that may result from the expansion of parks and recreational facilities to accommodate future growth are reduced to a less than significant level.

Significance Without Mitigation: Less than significant.

4.12.7.1 CUMULATIVE IMPACTS

PS-11	The project, in combination with past, present and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to parks.

Growth in the Specific Plan Area, in combination with other growth in the City, would increase demand for parks and recreational facilities. Future projects would pay property, sales, and utility taxes and fees supporting the City's General Fund, part of which would be available for the operations and development of new parks and recreational facilities. Future projects that are found by the City to require increases in parklands would also be required to pay park development fees and/or provide recreation onsite. Without the inclusion of special use parks, the City currently has a deficit in parkland. However, cumulative impacts would be less than significant after payment of taxes and impact fees by future projects, as well as with the creation of additional recreational facilities and parks as envisioned in the Downtown Davis Specific Plan. The proposed project's contribution to cumulative demand for recreational facilities would be less than cumulatively considerable.

Significance Without Mitigation: Less than significant.

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4.12.8 REFERENCES

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4.13 TRANSPORTATION

This section describes existing transportation system and evaluates the potential impacts on transportation associated with future development that could occur by adopting and implementing the proposed project. A summary of the relevant regulatory framework and existing conditions is followed by a discussion of the proposed project-specific and cumulative impacts.

The following analysis is based on the following:

- Downtown Davis Specific Plan Transportation Impact Study, May 2021, Fehr & Peers

A copy of the report is included in Appendix 4.13-1 of the EIR.

4.13.1 ENVIRONMENTAL SETTING

4.13.1.1 REGULATORY FRAMEWORK

This section describes federal, State, regional, and local environmental laws and policies that are relevant to the California Environmental Quality Act (CEQA) review process for transportation.

State Regulations

On September 27, 2013, Senate Bill (SB) 743 was signed into law. The legislature found that with adoption of the Sustainable Communities and Climate Protection Act of 2008 (SB 375), the State had signaled its commitment to encourage land use and transportation planning decisions and investments that reduce vehicle miles traveled (VMT) and thereby contribute to the reduction of greenhouse gas (GHG) emissions, as required by the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32).

SB 743 started a process that could fundamentally change transportation impact analyses as part of CEQA compliance. These changes will include the elimination of auto delay, level of service (LOS), and similar measures of vehicular capacity or traffic congestion as the basis for determining significant impacts under CEQA. As part of the new CEQA Guidelines, the new criteria “shall promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses.” The Office of Planning and Research (OPR) developed alternative metrics and thresholds based on VMT. The guidelines were certified by the Secretary of the Natural Resources Agency in December 2018, and automobile delay, as described solely by level of service (commonly referred to a LOS) or of similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment after July 1, 2020.

Local Regulations

City of Davis General Plan

The Davis General Plan includes the following goals, policies, standards, and actions pertaining to transportation (the numbering below matches the numbering in the General Plan):

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Transportation Element

Policy TRANS 1.2. Transportation access, accommodations, and circulation should contribute to creating a supportive environment for economic development in the downtown for both residents and visitors.

Policy TRANS 1.3. Encourage higher intensity residential, commercial, and mixed-use development near existing activity centers and along corridors well served by non-motorized transportation infrastructure and public transportation

Action

b. Enhance the pedestrian environment within a quarter-mile of existing activity centers.

Policy TRANS 1.8. Develop and maintain a work trip-reduction program designed to reduce carbon emissions, criteria pollutants, and local traffic congestion.

Standard

a. New development areas shall reduce vehicle trips generated by their developments. Developers shall mitigate significant adverse traffic impacts upon existing development to reduce the impacts to less-than-significant levels, unless the city finds that full mitigations are incompatible with the surrounding environment.

Policy TRANS 2.1. Provide Complete Streets to meet the needs of drivers, public transportation vehicles and riders, bicyclists, and pedestrians of all ages and abilities in all transportation planning, programming, design, construction, reconstruction, retrofit, operations, and maintenance activities and products. The City shall view all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in Davis, and recognizes bicycle, pedestrian, fixed-route transit, and demand-response para transit modes as integral elements of the transportation system along with motor vehicles.

Standard

- c. Streets, bike paths, bike lanes and trails should conform to the City guidelines.
- d. The following Levels of Service (LOS) are acceptable for automobiles for major intersections (see Glossary for definition of "Major Intersections"):
 - 'D' during non-peak traffic hours.
 - 'E' during peak traffic hours.
 - 'F' during peak traffic hours in the Core Area and Richards Boulevard/Olive Drive area.
 - 'F' during peak traffic hours in other areas if approved by City Council.

Policy TRANS 2.5. Create a network of street and bicycle facilities that provides for multiple routes between various origins and destinations.

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Actions

- b. Develop a network of bicycle boulevards (see glossary) on relatively low-volume and low-speed “shared” streets that are attractive, convenient, comfortable, and welcoming to cyclists of all ages and skill levels. Facility improvements on such bicycle boulevards may include but are not limited to traffic calming, diversion or discouragement of non-local vehicle traffic, signage, pavement markings, and intersection crossing improvements.
- c. Develop a network of secondary bicycle connectors (see glossary) through low-speed neighborhood streets. Such routes could include signage, striping, and traffic calming measures as necessary.
- d. Provide convenient bike, pedestrian, and public transportation access through areas where cars are or may be prohibited, where applicable.

Policy TRANS 2.9. Enhance access to downtown, including from south Davis and I-80 by improving circulation and connectivity for all modes through and across the Richards Boulevard/First Street corridor.

Policy TRANS 3.3. Require new development to be designed to maximize transit potential.

City of Davis Bicycle Action Plan

The Davis Bicycle Action Plan includes the following goals pertaining to transportation:

- **Goal 1:** Davis will develop and maintain a community of safe, confident, and comfortable cyclists.
- **Goal 2:** Davis will offer a complete, seamless, and integrated bikeway network on and off street that is accessible to and comfortable for people of all ages and abilities.
- **Goal 3:** Davis will integrate cycling with transit options both locally and regionally
- **Goal 4:** Davis will obtain Diamond Level Bicycle Friendly Community designation from the League of American Bicyclists

Downtown Davis Specific Plan

The Downtown Davis Specific Plan contains the following implementation actions pertaining to transportation:

Circulation (Bicycle, Pedestrian, Transit, Streetscape)

- **Action 1.** Implement a Layered Network Approach to Street Design with Defined Modal Priorities
- **Action 2.** Implement a Pedestrian Network That Enhances Walkability in Downtown
- **Action 3.** Implement a “Low- Stress” Bicycle Network in Downtown.
- **Action 4.** Implement Transit Network Improvements in Downtown.
- **Action 5.** Implement Vehicular Network Improvements in Downtown.

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Parking and Transportation Demand Management

- **Action 1.** Manage Curb Parking
- **Action 2.** Manage City-Owned Lots and Garages
- **Action 3.** Regulate Private Development
- **Action 4.** Improve Transportation Choices

Details on Methodology/Steps on these actions are found in Table 8D and 8E of the Specific Plan.

4.13.1.2 EXISTING CONDITIONS

Roadway System

Local Roadways

The City of Davis organizes local roadways using a hierarchical system, whereby individual roadways are classified by their intended function within the overall roadway system. These classifications—arterials, minor arterials, collectors, and local streets and alleys—define the desired functional and operational characteristics of a roadway, such as traffic volume capacity and level of service. Several arterials serve as the primary vehicle routes in and out of the Specific Plan Area, including Richards Boulevard (via the Richards Tunnel), First Street, B Street, Russell Boulevard/Fifth Street, and F Street. In addition to providing access to Downtown, the Richards Boulevard-First Street-B Street-Russell Boulevard corridor also serves as a major through route for vehicles traveling to UC Davis and other Davis neighborhoods.

Designated trucks routes are identified for trucks in excess of three tons of gross vehicle weight. In the Specific Plan Area, designated truck routes generally coincide with arterial streets, such as Richards Boulevard, First Street, Third Street, B Street, and Russell Boulevard/Fifth Street. Trucks making deliveries to Downtown businesses are permitted to detour from the designated truck routes to access loading areas.

Downtown roadways are controlled by a variety of traffic control devices. Most intersections internal to Downtown are controlled by all-way stop signs, consistent with the low-speed and walkable nature of the Downtown grid. Traffic signals are present along arterials surrounding the edge of the Downtown area to facilitate higher volumes of traffic flow at major intersections. Generally, roadways within the Downtown area have a posted speed limit of 25 mph.

Regional Roadways

Regional travel to and from Downtown is provided by I-80 and State Route 113 (SR 113), both facilities that are owned, operated, and maintained by Caltrans. I-80 is a freeway that extends from the San Francisco Bay Area east through Davis towards Sacramento and Sierra Nevada. Within the vicinity of Downtown Davis, I-80 is three to four lanes in each direction and carries approximately 132,000 vehicles per day. SR 113 is a north-south state highway that runs north from I-80, through Davis, and towards Woodland and destinations beyond, along the Interstate 5 (I-5) corridor.

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Congestion levels on I-80 can cause freeway traffic to detour onto City streets during peak travel periods or when incidents occur on the freeway. This can increase congestion levels on parallel City streets within the Specific Plan Area vicinity such as Russell Boulevard/Fifth Street, First Street, and Richards Boulevard. This is particularly prevalent on eastbound I-80 during Thursday and Friday afternoons and evenings.

Access between the Specific Plan Area and the regional freeway network is available at the I-80 interchange at Richards Boulevard and the SR 113 interchange at Russell Boulevard.

The City of Davis and Caltrans have partnered to design and construct the I-80/Richards Boulevard Interchange Improvements project. The project is programmed in the SACOG 2021-2024 Metropolitan Transportation Improvement Program (MTIP) with an identified completion year of 2023.

Pedestrian Facilities

Downtown Davis is defined by its highly walkable and pedestrian-friendly environment. Basic pedestrian facilities such as sidewalks and crosswalks, traffic control devices present within the Downtown area maintain low automobile speeds and deter through traffic in order to facilitate a comfortable pedestrian environment. Sidewalks or shared-use paths are generally present along all streets within Downtown Davis. A few exceptions exist, such as the west side of H Street between Second Street and Third Street, the south side of First Street east of E Street, and the north side of Richards Boulevard between First Street and Olive Drive. In addition to sidewalks, off-street pedestrian pathways are scattered throughout the Downtown area, enabling pedestrians to walk through blocks rather than around blocks. Together, this network of pedestrian pathways enables a high degree of permeability throughout the Downtown built environment.

Marked crosswalks facilitate pedestrian crossings at most Downtown intersections. The City has recently installed enhanced pedestrian crossing features at intersections where higher volumes require longer wait times for crossing pedestrians, such as a rapid-rectangular flashing beacon (RRFB) at Fifth Street/C Street intersection. Downtown also features several midblock crosswalks in active pedestrian areas, such as E Street, F Street, and G Street between Second Street and Third Street.

Bicycle Facilities

Within Downtown, bicycle facilities include Class II bike lanes on Third Street, Fifth Street, B Street, and F Street and the combined Class I (eastbound) and Class II (westbound) facility on First Street. Elsewhere, bicyclists are expected to mix with general traffic to access Downtown destinations.

Bicyclists traveling to the Downtown area utilize a series of on- and off-street bicycle facilities to access the Specific Plan Area. The primary bicycle routes to and from the Specific Plan Area are as follows:

- **To/from the west (UC Davis, West Davis, Central Davis):** Routes are provided via Russell Boulevard/Fifth Street (Class I path west of A Street and Class II bike lanes east of A Street), Third Street/North Quad (bicycle-only street west of A Street, shared street between A Street and B Street, and Class II bike lanes east of B Street), First Street/Shields Avenue (bicycle-only street west of A Street, Class I/Class II facilities west of A Street), and the Class I Arboretum/Putah Creek Trail.

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- **To/from the north (Central Davis, North Davis):** North-south routes include Class II bike lanes on B Street and F Street.
- **To/from the east (East Davis):** East-west routes include the Class II bike lanes on Third Street, Fifth Street, and Eighth Street.
- **To/from the south (South Davis):** Routes include the Class I Arboretum Trail/Putah Creek Trail (including a grade-separated crossing of I-80) and the Class I path through the Richards Tunnel.

The Arboretum Trail/Putah Creek Trail provides a connection for bicycles under I-80 to areas in South Davis. However, the I-80/Richards Boulevard interchange poses a barrier to bicycle travel between the Specific Plan Area and South Davis. While Richards Boulevard features Class II bike lanes through the interchange area, the uncontrolled vehicular movements at the westbound on- and off-ramps create lengthy mixing zones between bicyclists and vehicles, increasing bicyclist exposure time while traversing through the interchange area. The multi-modal improvements in the I-80/Richards Boulevard Interchange Project will address this barrier, including the construction of a Class I path on the south side of Richards Boulevard underneath the westbound on-ramp.

Transit Service and Facilities

Local Bus Service

Unitrans is the primary fixed route bus service provider within Downtown Davis. Jointly operated by UC Davis and the City of Davis, Unitrans provides local fixed route bus service between Downtown Davis, the UC Davis Campus, and residential neighborhoods throughout the City of Davis.

The primary Unitrans alignments serving Downtown include Russell Boulevard/Fifth Street, B Street, F Street, First Street, and Richards Boulevard. Russell Boulevard and First Street are the primary alignments for routes serving both Downtown and the UC Davis campus. Unitrans routes connecting passengers to Davis Train Depot utilize Second Street through Downtown Davis. Within the Downtown area, the Richards Boulevard tunnel prohibits the use of Unitrans double-decker buses from operating on routes destined for South Davis. Unitrans operates a regular weekday schedule Monday through Thursday to coincide with UC Davis class schedules, with limited service spans and frequencies on Friday and weekends.

Regional Bus Service

Yolobus, operated by the Yolo County Transportation District, provides intercity and commuter bus service throughout Yolo County and downtown Sacramento. Within Downtown Davis, Yolobus service includes peak-only commuter bus service to Woodland and downtown Sacramento and all-day Route 42A/42B service to Woodland, Sacramento International Airport, West Sacramento, and downtown Sacramento.

Yolobus service within the Downtown area is concentrated on F Street, Russell Boulevard/Fifth Street, B Street, and First Street. Nearly all Yolobus routes operating in the area utilize the Richards Boulevard tunnel to enter and exit the Downtown area.

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Passenger Rail Service

Amtrak provides passenger rail service to Davis at the Davis Train Depot located near Second Street and G Street in the southeast corner of Downtown. Amtrak Capitol Corridor Service is available at the depot, connecting passengers to Sacramento and Roseville to the east and the Bay Area to the west. Existing Capitol Corridor service levels provide 15 daily round-trips during typical weekdays at the Davis Train Depot at approximately hourly headways. With over 500 daily boarding, Davis generates the second highest average weekday ridership of all stations located along the Capitol Corridor, trailing only Sacramento Valley Station.

Davis Train Depot

The Davis Train Depot is the primary transit center in Downtown. Served by Unitrans and Amtrak rail and bus service, the depot provides connections to both the regional and local transit networks. The depot and surrounding passenger parking lot are bounded on all sides by railroad tracks. For all modes, the depot is accessible via a single at-grade rail crossing located near the intersection of H Street and Second Street.

Freight Rail Service

The Union Pacific Railroad Company (UPRR) operates a railroad line that runs east-west through the City of Davis. The UPRR tracks border the southern edge of the plan area and are grade-separated with Richards Boulevard.

The California Northern Railyard Company (CFNR) operates a railroad line that runs north-south through the City of Davis. The CFNR tracks border the eastern edge of the Specific Plan Area. At-grade crossings exist within the Specific Plan Area at Second Street, Third Street, Fourth Street, Fifth Street, and Eighth Street. The rail crossing includes advanced warning signs, pavement markings, and crossing arms.

4.13.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant transportation impact if it would:

1. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
2. Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b).
3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
4. Result in inadequate emergency access.

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4.13.3 IMPACT DISCUSSION

TRAF-1	Implementation of the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Roadway

As envisioned by the Downtown Davis Specific Plan, thoroughfares including Richards Boulevard, First Street, B Street, Russell Boulevard/Fifth Street, and F Street will continue to serve as the primary vehicular routes in and out of Downtown. The Richards Boulevard tunnel will continue to be the primary Downtown gateway for regional motorists traveling via I-80. The Specific Plan does not include the construction of new thoroughfares, thoroughfare widening, or the addition of vehicular travel lanes within existing thoroughfare rights-of-way.

The Specific Plan proposed the following street improvements within the Plan Area:

- **Signalization of Intersections** at First Street and B Street, First Street and F Street, and Second Street and B Street, to accommodate increased vehicular demand, better facilitate bicycle and pedestrian crossings, and enable transit signal prioritization along the First Street corridor.
- **Reconfiguration of Intersections** at First Street and A Street, First Street and B Street, First Street and E Street, Russell Boulevard and A Street, and Russell Boulevard B Street, to minimize the potential for multimodal conflicts; better facilitate bicycle and pedestrian crossings, and establish Downtown gateways.
- **Signal Coordination** along the Russell Boulevard/Fifth Street, B Street, and First Street corridors to better manage vehicular traffic flows.
- **Removal of Certain Turn Lanes**, namely the northbound and southbound left-turn lanes at the Fourth Street and F Street intersection and the southbound right-turn lane at the First Street and E Street intersection, to accommodate planned bicycle and pedestrian improvements.

The Specific Plan is designed with parking policies intended to cope with ridesharing services and autonomous vehicles trends by expanding curbside loading areas. It does this by reforming parking regulations to ensure that parking is readily available but not overbuilt. The proposed improvements would enhance the existing roadways to facilitate efficient vehicular flows and bicycle pedestrian facilities. Therefore, impacts would be less than significant.

Bicycle and Pedestrian Facilities

The proposed project would lay out a future transportation vision for Downtown Davis in which the transportation system provides improved multi-modal access (both internal to Downtown and to surrounding areas) and improves the interaction of transportation modes.

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The proposed project would include extensive improvements to on- and off-street bicycle and pedestrian facilities and roadway/intersection crossings within the Specific Plan Area, as described in the Draft Downtown Specific Plan. The Specific Plan Area bicycle facility improvements would include a variety of bicycle facility types to provide a range of route choices for bicyclists of varying abilities, experience levels, and tolerance to traffic stress. The proposed project would include the construction of Class IV separated bikeways on key north-south and east-west bicycle routes, in addition to intersection crossing enhancements along corridors with separated bikeways. These facilities would physically separate bicyclists from competing travel modes along roadway segments and through intersections and form the core of the Specific Plan Area's "low stress" bicycle network.

Increases in walking and bicycling activity would be particularly prevalent within the vicinity of the "Heart of Downtown" area where the density and diversity of uses would be at its greatest. Other locations that would experience increases in walking and bicycling activity include the G Street corridor north of Fifth Street, the Davis Train Depot vicinity, and the major walking and bicycling routes between the Specific Plan Area and the UC Davis campus, including First Street, Second Street, Third Street, and Russell Boulevard/Fifth Street. New walking and bicycling trips would be accommodated by existing pedestrian and bicycle facilities within and near the Specific Plan Area, as well as planned bicycle and pedestrian facilities. New walking and bicycling trips generated by the proposed project would also be accommodated by planned active transportation improvement projects outside of the Specific Plan Area, including the I-80/Richards Boulevard Interchange Improvements project (in design with a 2023 completion date) and the Pole Line/Olive Drive Bicycle Connection project (recently completed and opened in May 2022).

A review of the Draft Downtown Davis Specific Plan did not identify any disruption to existing bicycle or pedestrian facilities. The bicycle facility improvements identified in the Draft Downtown Davis Specific Plan are different than the specific improvements identified in the City's *Beyond Platinum Bicycle Action Plan*. The proposed project's bicycle facility improvements include a range of Class I through Class IV bicycle facilities and include recommendations for either dedicated bicycle facilities or shared facilities (where bicyclists physically mix with vehicular traffic) based on the specific operating characteristics of each roadway segment. Conversely, the *Beyond Platinum Bicycle Action Plan* recommends shared facilities for all Downtown roadways with bicycle facilities. Therefore, the bicycle facility improvements identified in the Draft Downtown Davis Specific Plan would be considered to exceed the performance and quality of the improvements identified in the *Beyond Platinum Bicycle Action Plan* by physically separating bicyclists from vehicles on roadways with higher speeds or volumes of vehicle traffic, or are at least equal the performance and quality of the improvements identified in the *Beyond Platinum Bicycle Action Plan* on roadways where shared facilities are appropriate. Therefore, the proposed project would not be inconsistent with the *Beyond Platinum Davis Specific Plan*.

Implementation of the proposed project would support City of Davis General Plan policies related to the bicycle and pedestrian environment, including promoting complete streets design principles (Policy TRANS 2.1), creating a network of street and bicycle facilities that provides for multiple routes between various origins and destinations (Policy TRANS 2.5), implementing transportation improvements

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specifically targeted at bicycles (Policy TRANS 4.3), and improving bicycle/pedestrian access, comfort, and safety (Policy TRANS 2.2). Therefore, impacts would be less than significant with respect to bicycle and pedestrian programs, plans, ordinances, and policies.

Transit Facilities

The Specific Plan Area is within a SACOG MTP/SCS transit priority area (TPA). Such TPAs are designated in areas that are close to major transit stops or terminals. One primary goal of the SACOF MTP/SCS TPA designation is to encourage transit-oriented development and multi-modal connectivity including pedestrian-friendly design and improved accessibility for all people. Future development that would result from the proposed Specific Plan would be designed to increase transit access and safety, as well as maximize the use of existing transit services.

The proposed project would include improvements to transit operations in the vicinity of the Specific Plan Area, including the implementation of transit priority measures on roadways serving higher volumes of transit trips such as First Street, Richards Boulevard, and Russell Boulevard/Fifth Street. Potential measures include transit-only lanes, queue jumps, transit signal preemption, and enhanced bus stop amenities. The proposed project also includes multi-modal access improvements in the vicinity of the Davis Train Depot to improve first- and last-mile walking and bicycling access to Amtrak and Capitol Corridor passenger rail service.

New transit ridership demand would be generated by the proposed project's growth commensurate with projected growth in population and employment. Additional transit ridership demand would increase bus and passenger rail boarding and alighting activity at existing bus stops located within the Specific Plan Area and at the Davis Train Depot. By increasing the use of public transit, VMT would decrease within the Specific Plan Area, thereby improving traffic flows and reducing air quality impacts and greenhouse gas emissions. The increase in transit ridership demand would be consistent with the City of Davis General Plan policies related to transit, including promoting complete design principles (Policy TRANS 2.1); facilitating the provision of convenient, reliable, safe, and attractive transit (Policy TRANS 3.1); and maximizing transit potential for new development (Policy TRANS 3.3), as well as the City's policies related to air quality and greenhouse gas emissions (as discussed in Section 4.2, *Air Quality*, and Section 4.6, *Greenhouse Gas Emissions*, of this DEIR). Therefore, impacts would be less than significant with respect to transit programs, plans, ordinances, and policies.

Significance Without Mitigation: Less than significant.

TRAF-2	Implementation of the proposed project would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).

CEQA Guidelines Section 15064.3 describes specific considerations for evaluating a project's transportation impacts. As stated in Section 15064.3(a), vehicle-miles traveled or VMT is the most appropriate measure of transportation impacts, and pursuant to Section 15064.3(b)(1) land use projects should be analyzed based on VMT.

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As indicated in the Transportation Impact Study, a project is considered to result in a significant impact if the project-generated VMT per service population exceeds any of the following thresholds, recommended by the Governor's Office of Planning and Research (OPR) and defined by the California Air Resources Board (CARB), relative to the existing local or regional VMT per service population averages:

- **VMT Threshold #1:** Project-generated VMT per service population would be less than or equal to the existing local or regional VMT per service population averages, as analyzed for recent City of Davis CEQA documents;
- **VMT Threshold #2:** Project-generated VMT per service population would be less than or equal to 15 percent lower than the local or regional VMT per service population averages, as recommended by OPR in the Technical Advisory on Evaluating Transportation Impacts in CEQA;
- **VMT Threshold #3:** Project-generated VMT per service population would be less than or equal to 14.3 percent lower than the local or regional VMT per service population averages, the threshold needing to be met in order to be consistent with the 2017 Scoping Plan Update and to achieve State climate goals as defined by the California Air Resources Board (CARB) in the Technical Advisory on Evaluating Transportation Impacts in CEQA.

The potential impact to VMT was evaluated by comparing the estimated VMT per service population that would be generated by the proposed project to the existing local and regional VMT per service population averages.

Table 4.13-1, *Weekday VMT per Service Population – 2019 Baseline Plus Proposed Project Conditions*, presents the results of the VMT analysis. 2019 conditions were used due to COVID-related disruptions to travel behavior, such as increased prevalence of remote work and remote instruction for UC Davis and local schools. UC Davis didn't restart in-person instruction until Fall 2021, and the local population and corresponding travel activity was substantially decreased throughout 2020 and 2021. The proposed project is estimated to generate 90,672 VMT and 24.8 VMT per service population under 2019 Baseline Plus Proposed Project conditions on a typical weekday. The total VMT that would be generated by the proposed project is equal to three percent of the total VMT generated by the City of Davis under existing conditions.

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TABLE 4.13-1 WEEKDAY VMT PER SERVICE POPULATION – 2019 BASELINE PLUS PROPOSED PROJECT CONDITIONS

Metric	Specific Plan Area ¹	City of Davis ²	City of Davis + UC Davis ³	SACOG Region ⁴
Total VMT	90,672	3,411,358	4,268,554	123,034,634
Residents	2,160	71,755	80,794	2,374,910
Employees	1,501	13,987	26,365	940,683
Service Population	3,661	85,742	106,159	3,315,593
Total VMT per Service Population	24.8	39.8	40.2	37.1
VMT Significance Criteria Comparison				
% Difference between project-generated VMT per service population and existing local/regional VMT per service population		-37.7%	-38.4%	-33.3%
Exceed VMT Threshold #1 (+0%)?		No	No	No
Exceed VMT Threshold #2 (-15%)?		No	No	No
Exceed VMT Threshold #3 (-14.3%)?		No	No	No

Source: Fehr & Peers 2021

¹ Specific Plan Area resident estimates for the 1,000 new dwelling units that would result from the proposed project are provided in the Draft Downtown Davis Specific Plan. The Specific Plan Area employee estimates for the 600,000 square feet of non-residential uses that would result from the Specific Plan Area were derived as followed in consultation with City of Davis staff: (360,000 square feet/R&D at 500 square feet per employee) + (120,000 square feet office/traditional at 275 square feet per employee) + (30,000 square feet retail at 425 square feet per employee) + (30,000 square feet food at 415 square feet per employee) + (60,000 square feet government at 300 square feet per employee) = 1,501 total employees. VMT and service population estimates for the DSP area represent net new quantities that would be generated by the DSP.

² Residents and employee totals derived from the UC Davis/City of Davis Travel Demand Model land use inputs. Includes UC Davis residential uses located off-campus in the City of Davis (e.g., 8th and Wake Apartments).

³ Resident and employee totals derived from the UC Davis/City of Davis Travel Demand Model land use inputs. Includes both City of Davis residents and employees and UC Davis on-campus residents and employees.

⁴ Residents and employee totals derived from the UC Davis/City of Davis Travel Demand Model and SACSIM travel demand model land use inputs. City of Davis, City of Davis, and SACOG region VMT per service population represent existing conditions.

As shown in Table 4.13-1, the project-generated VMT per service population would measure more than 15 percent below the average VMT per service population generated by the City of Davis, by the City of Davis with UC Davis, and by the SACOG region. Therefore, the proposed project would not exceed the VMT thresholds and impacts would be less than significant.

Significance Without Mitigation: Less than significant.

TRAF-3	Implementation of the proposed project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), or result in inadequate emergency access.

Future development included in the proposed project would be infill development consistent with the existing land use context in Downtown Davis. As such, it would generate a mix of traffic that would be similar to existing conditions. With more residents, employees, and visitors, the volume of traffic across modes would increase and this could result in slower travel speeds for some modes. These changes would not cause conditions that would warrant modification of the existing transportation system beyond the transportation improvements identified in the Specific Plan. The transportation improvements identified under the proposed project would improve compatibility of transportation modes on various roadways in

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and near the Specific Plan Area. The transportation improvements identified under the proposed project would be designed to applicable design and safety standards to avoid creating a geometric hazard at the time improvements are underway.

The Specific Plan Area is served by the City of Davis Fire Department Headquarters (located within the Specific Plan Area near the Fifth Street/D Street intersection) and the City of Davis Police Department Headquarters (located approximately 1 mile east of the Specific Plan Area on Fifth Street). The transportation network in the Specific Plan area is a grid configuration that provides several alternative east-west and north-south streets for emergency access routes. Additionally, the Specific Plan includes strategies to improve emergency response needs, such as incorporating the needs of emergency service providers in thoroughfare design to the satisfaction of City Public Works Director and the City Fire Marshal in accordance with applicable emergency response standards. Similarly, Implementation Action 1G of the Specific Plan calls for the design of the street network to accommodate emergency response provider needs.

The future development described under the proposed project would not interfere with existing emergency access. No existing rights-of-way or emergency access routes would be closed, or otherwise adversely impacted.

Significance Without Mitigation: Less than significant.

4.13.4 CUMULATIVE IMPACTS

TRAF-4	Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in additional cumulatively considerable impacts.

Under the 2019 Baseline Plus Project conditions, the proposed project would cause a less than significant impact to VMT. The VMT impact analysis for the 2019 Baseline Plus Project conditions applies to 2040 Cumulative Plus Project conditions for the following reasons:

- The VMT significance threshold compares project-generated VMT per service population to that of existing local and regional development. This comparison is useful because it provides information regarding how the project aligns with long-term environmental goals related to VMT established based on existing development levels. Use of VMT significance thresholds based on existing development levels is recommended in the OPR Technical Advisory on Evaluating Transportation Impacts in CEQA.
- Several characteristics of the Specific Plan would align with State environmental goals that strive to reduce vehicle travel activity and promote non-motorized transportation modes. These include the increased density and mix of land uses, the increased access to travel destinations, implementation of transportation demand management strategies, increased housing near a major rail transit station, and provision of improved and expanded bicycle, pedestrian, and transit facilities that would result from the implementation of the Specific Plan.

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- The OPR Technical Advisory on Evaluating Transportation Impacts in CEQA indicates that VMT efficiency metrics, such as VMT per service population, are not appropriate for CEQA cumulative analysis. Instead, the Technical Advisory recommends that an impact finding from an efficiency-based project-specific VMT analysis (i.e., Existing Plus Project conditions) would imply an identical impact finding for a cumulative VMT analysis. An example provided by OPR explains that a project that falls below an efficiency-based threshold that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. As described in the above bullet points, the Specific Plan impacts fall below the threshold and the Specific Plan aligned with long-term environmental goals and relevant plans.

Based on the above, the proposed project's cumulative VMT impact would be considered less than cumulatively considerable.

Significance Without Mitigation: Less than significant.

UTILITIES AND SERVICE SYSTEMS

4.14 UTILITIES AND SERVICE SYSTEMS

This chapter describes the regulatory framework and existing conditions in the Specific Plan Area related to utilities and service systems, and the potential impacts of the proposed project on water, sanitary, solid waste, and energy services.

4.14.1 WATER

4.14.1.1 ENVIRONMENTAL SETTING

This section describes the existing regulatory framework and conditions as well as potential impacts of the proposed project with regard to water supply.

Regulatory Framework

Federal Regulations

Clean Water Act (CWA)/ National Pollutant Discharge Elimination System (NPDES) Permits

The Clean Water Act (CWA) establishes regulations to control the discharge of pollutants into the waters of the United States and regulates water quality standards for surface waters. Under the CWA, the U.S. Environment Protection Agency (EPA) is authorized to set wastewater standards and runs the National Pollutant Discharge Elimination System (NPDES) permit program. Under the NPDES program, permits are required for all new developments that generate discharges that go directly into waters of the United States. The federal CWA, United States Code, Title 33, Sections 1251 et seq. requires wastewater treatment of all effluent before it is discharged into surface waters.

State Regulations

State Water Resources Control Board: Statewide General Waste Discharge Requirements

The General Waste Discharge Requirements specify that all federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California need to develop a Sewer Master Plan. The plan evaluates existing sewer collection systems and provides a framework for undertaking the construction of new and replacement facilities to maintain proper levels of service. The master plan includes inflow and infiltration studies to analyze flow monitoring and water use data, a capacity assurance plan to analyze the existing system with existing land use and unit flow factors, a condition assessment and sewer system rehabilitation plan, and a financial plan with recommended capital improvements and financial models.

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General Pretreatment Regulations for Existing and Sources of Pollution

The General Pretreatment Regulations establish responsibilities of the federal, state, and local government; industry; and the public to implement National Pretreatment Standards to control pollutants that pass through or interfere with treatment processes in Publicly Owned Treatment Works (POTW) or that may contaminate sewage sludge. Pretreatment standards are pollutant discharge limits that apply to industrial users.

State Model Landscape Ordinance

The California Water Conservation in Landscaping Act, also known as the State Landscape Model Ordinance, was amended pursuant to Assembly Bill (AB) 2717 and AB 1881. AB 2717 required the Department of Water Resources (DWR) to adopt a model local water efficient landscape ordinance that each local agency may adopt, and requires local agencies to adopt a water efficient landscape ordinance. AB 1881 required cities and counties to adopt landscape water conservation ordinances by January 31, 2010, or to adopt a different ordinance that was at least as effective in conserving water as the California Updated Model Water Efficient Landscape Ordinance (MWELO).

DWR updated the MWELO in 2015, consistent with the Governor's Executive Order B-29-15. The updated MWELO requires cities and counties to adopt landscape water conservation ordinances by February 1, 2016, or to adopt a different ordinance that is at least as effective in conserving water as the updated Model Ordinance. Residential, commercial, industrial, and institutional projects that include landscaped areas of 500 square feet or more must be MWELO-compliant. (23 Cal. Code Regs. §§ 490 *et seq.*)

California Green Building Standards Code

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24, known as "CALGreen") was adopted as part of the California Building Standards Code (Title 24, California Code of Regulations) to apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure, unless otherwise indicated in the code, throughout the State of California. CALGreen established planning and design standards for sustainable site development, including water conservation measures and requirements that new buildings reduce water consumption by 20 percent. The building efficiency standards are enforced through the local building permit process.

Sustainable Groundwater Management Act

In the midst of a major drought, California Governor Jerry Brown signed the Sustainable Groundwater Management Act of 2014 (SGMA). The act consists of three legislative bills, Senate Bill SB 1168 (Pavley), Assembly Bill AB 1739 (Dickinson), and Senate Bill SB 1319 (Pavley). The legislation provides a framework for long-term sustainable groundwater management across California. Under the roadmap laid out by the legislation, local and regional authorities in medium and high priority groundwater basins have formed Groundwater Sustainability Agencies (GSAs) that oversee the preparation and implementation of a local Groundwater Sustainability Plan (GSP).

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The California Department of Water Resources (DWR) has developed regulations governing the content of Groundwater Sustainability Plans. Local stakeholders have until 2022 (in critically overdrafted basins until 2020) to develop, prepare, and begin implementation of Groundwater Sustainability Plans. GSAs will have until 2040 to achieve groundwater sustainability.

Assembly Bill 1668 (AB 1668) and Senate Bill 606 (SB 606)

AB 1668 and SB 606 build on Governor Brown's ongoing efforts to make water conservation a way of life in California and create a new foundation for long-term improvements in water conservation and drought planning. SB 606 and AB 1668 establish guidelines for efficient water use and a framework for the implementation and oversight of the new standards, which must be in place by 2022. These two bills strengthen the state's water resiliency in the face of future droughts with provisions that include:

- Establishing water use objectives and long-term standards for efficient water use that apply to urban retail water suppliers; comprised of indoor residential water use, outdoor residential water use, commercial, industrial and institutional (CII) irrigation with dedicated meters, water loss, and other unique local uses.
- Providing incentives for water suppliers to recycle water.
- Identifying small water suppliers and rural communities that may be at risk of drought and water shortage vulnerability and provide recommendations for drought planning.
- Requiring both urban and agricultural water suppliers to set annual water budgets and prepare for drought.

Water Supply Assessment

Senate Bill 610 (SB 610) established primary legal standards for assessing the sufficiency of water supplies for new development projects. Affected land developments are those that meet certain size thresholds.

Water Code Sections 10910-10915 require a Water Supply Assessment (WSA) be prepared for a project that meets the following criteria:

- A proposed residential development of more than 500 dwelling units.
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
- A proposed hotel or motel, or both, having more than 500 rooms.
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- A mixed-use project that includes one or more of the projects specified in this subdivision.

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- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project.

The WSA must include additional analysis if any portion of the water purveyor's water supplies include groundwater. The analysis must include a description of any groundwater basin or basins from which the proposed project will be supplied in addition to a detailed description and analysis of the amount and location of groundwater pumped by the public water system for the past five years. The WSA must also include an analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project.

Local Regulations

City of Davis Urban Water Management Plan

The City of Davis adopted its 2020 Urban Water Management Plan in 2021, as required by the Urban Water Management Planning Act of 1983. The focus of the Plan is the conservation and efficient use of water in the Davis service area, and the development and implementation of plans to assure reliable water service in the future. The Plan addresses the City water system and includes a description of the water supply sources, historical and projected water use, water supplies, and water conservation activities. Additionally, the Plan contains best management practices for efficient water use.

City of Davis Groundwater Management Plan

Under mutual agreement, the City and UC Davis Ground Water Management Plan (GWMP) was developed in 2006 to address groundwater management needs specific to the City and UC Davis service areas, and these areas are not directly included or managed under the Yolo County Flood Control and Water Conservation District. The GWMP incorporates information from the Phase I and Phase II Deep Aquifer Studies and other regional groundwater investigations into a plan for managing and monitoring the effects of groundwater utilization. The GWMP includes all mandatory and suggested components outlined in California Water Code §10750 et seq. The GWMP documents planned groundwater management activities and describe potential future actions to increase the effectiveness of groundwater management in the Davis area.

City of Davis Municipal Code

Article 40.42 of the Davis Municipal Code provides specific landscaping standards for the provision of water efficient landscaping and verification of implementation to be performed by the City to comply with the Water Conservation in Landscaping Act of 2006.

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Davis General Plan

The following policies of the City of Davis General Plan relate to water supply:

- **Policy WATER 1.1:** Give priority to demand reduction and conservation over additional water resource development.
- **Policy WATER 1.2:** Require water conserving landscaping.
- **Policy WATER 1.3:** Do not approve future development within the City unless an adequate supply of water is available or will be provided prior to occupancy.
- **Policy WATER 2.1:** Provide for current and long-range water needs of the Davis planning area.
- **Policy WATER 2.2:** Manage groundwater resources so as to preserve quantity and quality.

Existing Conditions

The existing water infrastructure in Downtown Davis is generally in good condition and has sufficient capacity to support planned growth. Historically, and until recently, the City relied on groundwater for 100 percent of its water supply through the use of twenty groundwater wells. To replace the capacity lost with the removal of wells that did not comply with current potable water quality regulations, the City shifted its water portfolio in 2016 to rely primarily on surface water allocations from the Sacramento River. In 2019, approximately 87 percent of delivered water was from the Sacramento River. Groundwater provides the remaining 13 percent and is pumped from underlying aquifers that range from 200 to 1,700+ feet below ground surface and are part of the Sacramento Valley groundwater basin, Yolo Subbasin. The Yolo Subbasin is not adjudicated and there are no legal restrictions to groundwater pumping. The City has active groundwater wells throughout the city, but the majority of water pumped for drinking water comes from four deep aquifer wells (Davis 2021).

City records for recent years indicate usage patterns citywide are 130 gallons per capita per day (gpcd; Opticos 2019), due to responses to multi-year droughts and ensuing State drought restrictions. For the development parcels included in the Specific Plan Area, average existing daily water demand is approximately 54,000 gallons per day (gpd), based on 2016 and 2017 City data (Opticos 2019).

The City currently has 9 active water supply wells, two elevated water storage tanks with a 4 million-gallon capacity, and over 145 miles of water distribution lines ranging in size from 6 inches through 14 inches. As indicated in the 2020 UWMP, although conceptual and no decision has been made regarding timing of this expansion, the Woodland-Davis Clean Water Agency (WDCWA) plans to expand its Regional Water Treatment Facility in the future. It is assumed that an approximately 4 million gallons per day (mgd) expansion would be allocated to the City of Davis and University of California at Davis.

4.14.1.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact related to water supply if it would:

- Require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.

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- Result in insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.

4.14.1.3 IMPACT DISCUSSION

This section analyzes the proposed project's potential impacts to water supply and distribution facilities.

UTIL-1	Implementation of the proposed project would not require or result in the construction of new water facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.

As noted above, the average existing daily water demand for the Specific Plan Area is approximately 54,000 gallons per day (gpd), based on 2016 and 2017 City data. Based on a conservative "business as usual" scenario, in which conservation or reuse measures included in the Plan would not be implemented, the projected average daily water demand for the Specific Plan Area at full 2040 buildout is 145,000 gpd or 162 acre feet per year (AFY) (Opticos 2019). However, the proposed project proposes to utilize Low Impact Development (LID) strategies to reduce potable water consumption. A central component of LID is an emphasis on water conservation, primarily through the harvesting of rainwater. Utilizing captured water allows a site to address stormwater challenges while also lowering municipal water use. Future water efficiency requirements such as those required by CALGreen would also be implemented as part of the proposed project. State drought restrictions were replaced in 2018 by longer-term legislation passed under SB 606 and AB 1668, which set water use targets for urban water suppliers, including the City of Davis. Starting in 2023, indoor water consumption will be limited to 55 gpcd; outdoor usage targets will be adopted in 2022, and will vary based on land cover and other factors.

Based on the requirements of project-specific Water Quality Management Plans, BMPs may include the incorporation of other green infrastructure project types and technologies, such as:

- Green roofs
- Downspout disconnect and rainwater harvesting
- Bioretention and rainwater harvesting
- Bioretention bulb-outs
- Permeable pavement
- Bioretention in parks and landscaping

LID strategies under the proposed project would:

- Improve water quality through the protection of downstream receiving water bodies from increased pollutant loads. All BMPs have the potential to provide treatment.
- Alternate flows as LID can be very effective at mitigating flooding and erosion issues. The volume of stormwater can be reduced by capturing runoff in retention systems (which drain by infiltration or reuse) and the flowrate and velocity of runoff can be lowered, to varying degrees, by all BMPs.

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- Recharge groundwater by increasing pervious area and managing the runoff from impervious areas; LID is able to help restore water to the aquifer through infiltration.
- Reduce potable water consumption. A central component of LID is an emphasis on water conservation, primarily through the harvesting of rainwater. Utilizing captured water allows a site to address stormwater challenges while also lowering municipal water use.

Additionally, several Action Items in the Downtown Davis Specific Plan aim to reduce water consumption, such as:

- **Action Item 3A:** Explore the establishment of a water reuse district in the Heart of Downtown district, coordinating efforts with the proposed improvements to the E Street Plaza and its transformation to Davis Square.
- **Action Item 4A:** Evaluate the three Water Reuse Scenarios developed in Section 7.3 of Chapter Seven: Infrastructure to set targets for Downtown.
- **Action Item 5A:** Graywater Plan: Integrated water collection and reuse through descending uses and support landscaped greenery (e.g. shade trees and interstitial habitat). Plan for graywater integration with landscaping, especially for multi-story buildings (look to San Francisco ordinances).
- **Action Item 5B:** Consider requiring Net Zero Water in Downtown: capture and reuse all water, e.g., dishwashing systems, appliance and mechanical system recapture, stormwater, etc.
- **Action Item 5c:** Embed graywater ordinance and requirements for all downtown buildings in zoning code.

Based on the modeling results (Appendix 4.14-1) based on the “business as usual” approach, the existing water infrastructure is anticipated to have sufficient capacity to meet projected water demand generated from development of the proposed project. Additionally, increased demand for water in the Downtown, as a result of the proposed project, would not trigger upgrades to the water distribution network.

Therefore, the proposed project would not require the construction of new water treatment or distribution facilities and the impact would be less than significant.

Significance Without Mitigation: Less than significant.

UTIL-2	Implementation of the proposed project would result in sufficient water supplies available to serve the proposed project and reasonably foreseeable future development during normal, dry, and multiple dry years.

Projected average daily water demand for the Plan Area at full 2040 buildout, using a conservative “business as usual” scenario in which conservation or reuse measures included in the Plan are not implemented, is 145,000 gpd (approximately 162 AFY). According to the Water Supply Assessment prepared for the project (Lotus 2020), the peak daily demand in the City is 20.2 million gallons per day (mgd) (12,567 AFY) and the final buildout of the project is projected to increase the Plan Area peak daily

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demand by 0.16 mgd, and the average annual demand by 100 AFY. The City of Davis is now under contract to purchase wholesale surface water from the Woodland Davis Clean Water Agency (WDCWA) to use in combination with groundwater from the deep wells. The project participants consist of the City of Davis, City of Woodland, and UC Davis. The WDCWA can supply up to 30 mgd with an option for future expansion to 34 mgd. The City is entitled to deliveries of 10.2 mgd from the WDCWA, totaling approximately 11,425 AFY. The City pumped approximately 2,500 acre-feet of groundwater in 2020 (Brown and Caldwell 2021).

The proposed project encourages low impact development and green infrastructure techniques that would result in future development with features that mimic natural stormwater processes. Such techniques include green roofs, downspout rainwater harvesting, bioretention swales, and permeable pavement. These techniques, when integrated into the built environment, manages stormwater collection and quality through sedimentation, filtration, and evapotranspiration which reduce pollutants found in urban stormwater runoff. Such techniques can also be utilized to preserve hydrologic patterns, recharge groundwater, and reduce potable water consumption. Additionally, as mentioned above, several Action Items in Downtown Davis Specific Plan would strive to reduce water consumption in the Specific Plan Area.

The proposed project would be served by the City from the City's existing and future portfolio of water supplies; as indicated in Table 7-5 of the 2020 UWMP, the water supply exceeds the water demand. The Specific Plan Area already has access to City water infrastructure throughout the downtown area (see Specific Plan Figure 7.10, Existing Potable Water Infrastructure in Downtown). 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.

The population growth and corresponding water supply demand generated by the proposed project would fall within the total buildout water demand for the City's service area. The City's existing potable water supplies are sufficient to meet the City's existing and projected future potable water demands, including those future potable water demands associated with the proposed project, to the year 2035 under all hydrologic conditions (normal years and dry years).

Therefore, the proposed project, existing development in the area, and any proposed future development would have sufficient water supplies to meet water demands during normal, single, and multiple dry years and the impact would be less than significant.

Significance Without Mitigation: Less than significant.

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4.14.1.4 CUMULATIVE IMPACTS

UTIL-3	Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to water service.

The proposed project would increase water demand in the City by approximately 0.7 percent. As shown in Tables 7-4 and 7-5 of the UWMP, water supply would continue to exceed water demand from 2025 through 2045 (City of Davis 2020a). The City of Davis has adequate water supplies to support future development in the Plan Area and the City. The available water supply would meet the projected demands of the proposed project in addition to existing and cumulative demands. Moreover, implementation of individual projects would require project-specific analyses during the final design to evaluate water pipeline capacities related to an individual project. Fees collected from ratepayers that receive water services from the City are collected to pay for the continued operations, maintenance, upgrades, and new facilities to serve the ratepayers. Therefore, the proposed project would not result in a significant impact to water supplies and treatment facilities, individually or cumulatively. Therefore, cumulative impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

4.14.2 WASTEWATER

This section describes the existing regulatory framework and conditions as well as potential impacts of the proposed project with regard to wastewater collection and treatment facilities.

ENVIRONMENTAL SETTING

Regulatory Framework

Federal Regulations

Clean Water Act (CWA)/ National Pollutant Discharge Elimination System (NPDES) Permits

The Clean Water Act (CWA) establishes regulations to control the discharge of pollutants into the waters of the United States and regulates water quality standards for surface waters. Under the CWA, the U.S. Environment Protection Agency (EPA) is authorized to set wastewater standards and runs the National Pollutant Discharge Elimination System (NPDES) permit program. Under the NPDES program, permits are required for all new developments that generate discharges that go directly into waters of the United States. The federal CWA, United States Code, Title 33, Sections 1251 et seq. requires wastewater treatment of all effluent before it is discharged into surface waters.

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Local Regulations

City of Davis Wastewater Facilities Strategic Master Plan

In 2005, the City of Davis prepared the Davis Wastewater Facilities Strategic Master Plan, the purpose of which is to provide a strategic plan that outlines wastewater treatment, disposal, and reuse facility needs for a 25-year planning horizon. The Master Plan outlines the facilities needed and steps required to: 1) meet treatment requirements specified in the then active 2001 NPDES permit, 2) provide flexibility to meet anticipated future regulatory requirements, 3) determine repair and replacement needs for the facility, 4) improve reliability to ensure process performance, and 5) provide community benefits.

City of Davis General Plan

The City of Davis General Plan contains the following goals and policies that are relevant to wastewater aspects of the proposed project:

- **Policy WATER 5.1:** Evaluate the wastewater production of new large-scale development prior to approval to ensure that it will fall within the capacity of the plant.
- **Policy WATER 5.2:** Provided that the existing plant capacity is not exceeded, require new large scale development to pay its fair share of the cost of extending sewer service to the site.

Existing Conditions

The City's Wastewater Treatment Plant (WWTP) is located about 4.8 miles northeast of the Specific Plan Area along County Road 28H. The WWTP was constructed in 1970 and provides primary and secondary treatment by oxidation ponds and overland flow. The WWTP was modified in 1980 by the addition of an overland flow treatment step and again in 1989, with a new chlorination/dechlorination system. The initial design and construction of the WWTP allows the City of Davis to treat an average dry weather flow of up to 7.5 mgd and a peak wet weather flow of 12.6 mgd.

The wastewater collection system in the City is a network of pipes and lift stations that transport wastewater from its source to the treatment plant. The WWTP was updated to activated sludge treatment with Title 22 tertiary filtration and disinfection in 2017. All effluent is either discharged to Willow Slough Bypass or is sent to 400 acres of constructed wetlands for additional treatment and potential discharge to Conaway Toe Drain (CTD).

4.14.2.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact related to wastewater if it would:

- Require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects.
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

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4.14.2.3 IMPACT DISCUSSION

This section analyzes the proposed project's potential impacts to wastewater collection and treatment facilities.

UTIL-4	Implementation of the proposed project would not result in the construction of new wastewater treatment facilities.

The increase in population as a result of the proposed project would result in an increase in wastewater generation. SACOG's 2040 estimated population for the City is 77,490 which is an increase of 8,307 residents from the DOF 2020 estimated population of 69,183 residents. The potential 2,160 new residents in the Specific Plan Area would make up approximately 2.8 percent of the 2040 projected population for the City. If the population as a result of project implementation is added to the existing population estimate, which assumes all of the proposed project's residents are new to the City, the estimated population would not exceed the SACOG year 2040 projection. Additionally, based on modeling conducted for the Specific Plan, the existing sewer infrastructure is anticipated to have sufficient capacity to meet projected sewer demand generated from Downtown development (Opticos 2019). Impacts are less than significant.

Significance Without Mitigation: Less than significant.

UTIL-5	Implementation of the proposed project would not result in the determination by the wastewater treatment provider that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

The proposed project would increase existing wastewater flows in the Specific Plan Area to the existing sewer system. As noted previously, the existing sewer infrastructure is anticipated to have sufficient capacity to meet projected sewer demand generated from Downtown development. In accordance with Article 33.02, Sewer Connections, of the Davis Municipal Code, future development under the proposed project would use existing sewer lines, but would also consider whether upgrades are needed to accommodate site-specific projects. Fees collected from ratepayers that receive wastewater services from the City pay for the continued operations, maintenance, upgrades, and new facilities to serve the ratepayers. (Davis Municipal Code Art. 33.04.) Therefore, with the payment of fees, impacts would be less than significant.

Significance Without Mitigation: Less than significant.

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4.14.2.4 CUMULATIVE IMPACTS

UTIL-6	Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects would result in less-than-significant cumulative impacts with respect to wastewater service.

The wastewater from the proposed project would be treated at the City's WWTP, as discussed above, and the WWTP would have sufficient capacity to accommodate the proposed project's demand. As such, the proposed development does not cumulatively contribute to a centralized sewer conveyance and treatment system and impacts would be less than significant.

Significance without Mitigation: Less than significant.

4.14.3 SOLID WASTE

4.14.3.1 ENVIRONMENTAL SETTING

This section describes the existing regulatory framework and conditions as well as potential impacts of the proposed project related to solid waste collection and disposal facilities.

Regulatory Framework

State Regulations

California Integrated Waste Management Act

AB 939 (Integrated Solid Waste Management Act of 1989; Public Resources Code 40000 et seq.) established an integrated waste-management system that focused on source reduction, recycling, composting, and land disposal of waste. AB 939 required every California city and county to divert 50 percent of its waste from landfills by the year 2000. Each city is required to prepare, adopt, and submit to the County a Source Reduction and Recycling Element (SRRE). Counties must also prepare a SRRE for unincorporated areas. Compliance with AB 939 is measured in part by comparing solid waste disposal rates for a jurisdiction with target disposal rates. Actual rates at or below target rates are consistent with AB 939. AB 939 also requires California counties to show 15 years of disposal capacity for all jurisdictions in the county or show a plan to transform or divert its waste.

AB 341 (Chapter 476, Statutes of 2011) increased the statewide solid waste diversion goal to 75 percent by 2020. The law also mandates recycling for commercial and multifamily residential land uses as well as schools and school districts.

AB 1826 (California Public Resources Code Sections 42649.8 et seq.), signed into law in September 2014, requires recycling of organic matter by businesses generating such wastes in amounts over certain thresholds. This law also requires that local jurisdictions implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily dwellings that consist of five or more

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units. Multifamily dwellings are not required to recycle food waste including food-soiled paper (CalRecycle 2018). The law took effect in April 2016.

California Solid Waste Reuse and Recycling Access Act of 1991

This act was passed by the state legislature and instructs the California Integrated Waste Management Board (now known as “CalRecycle”) to draft a “model ordinance” for the disposal of construction waste associated with development projects. This act also requires local agencies to ensure that development projects have adequate areas for the collection and loading of recyclable materials.

Global Warming Solutions Act of 2006, Scoping Plan

The California Global Warming Solutions Act of 2006 (also known as AB 32) Scoping Plan, which was adopted by the California Air Resources Board, included a Mandatory Commercial Recycling Measure, which focuses on diverting commercial waste as a means to reduce GHG emissions, with the goal of reducing GHG emissions by 5 million metric tons of carbon dioxide equivalents, consistent with the 2020 targets set by AB 32. To achieve the Measure’s objective, the commercial sector will need to recycle an additional 2 to 3 million tons of materials annually by 2020.

CalRecycle adopted the Mandatory Commercial Recycling Measure at its January 17, 2012 monthly public meeting. The regulation was approved by the Office of Administrative Law on May 7, 2012 and became effective immediately. On June 27, 2012, the Governor signed SB 1018, which included an amendment requiring businesses that generate 4 cubic yards or more of commercial solid waste per week and multi-family residences with 5 or more units to arrange for recycling services. This requirement became effective on July 1, 2012.

CALGreen Building Code

Section 5.408 (Construction Waste Reduction, Disposal, and Recycling) of the California Green Building Standards Code (CALGreen; Title 24, California Code of Regulations, Part 11) requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse. CALGreen is updated on a three-year cycle; the 2019 CALGreen took effect on January 1, 2020.

Local Regulations

Chapter 32, City of Davis Municipal Code

Chapter 32, Management of Garbage, Other Wastes, Recyclables, and Fees, regulates management of solid waste, including garbage, recyclables and other wastes. This chapter and articles within establish the Diversion of Construction and Demolition Debris Ordinance, requiring projects necessitating a building permit, with exceptions as set forth in the ordinance, to divert 50 percent of construction and demolition debris generated from applicable construction, remodeling, or demolition project from disposal to landfills through recycling, reuse, and diversion programs.

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City of Davis Integrated Waste Management Plan

The City of Davis Integrated Waste Management Plan is a plan developed pursuant to the Integrated Solid Waste Management Act to provide for planned management of solid waste within the City of Davis. The Plan includes provisions for reduction of solid waste, recycling, management of household hazardous waste, and siting of solid waste facilities. The goal is to reduce waste disposal to 1.9 pounds per person per day calculated by CalRecycle by the year 2020 and as close to zero pounds per person per day by year 2025.

City of Davis General Plan

The following policies of the City of Davis General Plan relate to solid waste:

Policy MAT 1.1: Promote reduced consumption of non-renewable resources

Standards

- a. Coordinate with Yolo County Central Landfill to encourage the reuse of materials deposited at the land fill.
- b. Encourage reuse of refillable bottles.

Actions

- c. Continue to support the city-wide recycling system including service to apartments and businesses, and strive for annual reductions in commercial and industrial waste disposal.
- d. Provide attractive well-designed trash receptacles with provision for recyclable materials in appropriate areas in public areas.
- e. Implement State laws on solid waste reduction and recycling. Where feasible take action to further recycling efforts that are not included in state law.
- f. Encourage the development of businesses which buy and sell reused materials, including a materials exchange center.
- g. Revise yard waste collection policies so that lawn clippings are no longer placed in plastic bags.
- h. Continue to implement the City-wide recycling/composting program for yard debris and plant materials.
- i. Encourage and support recycling awareness with city information and activity days.
- j. Support a school curriculum on waste, waste reduction and recycling.
- k. Encourage the continuation of field trips to the DWR recycling center.
- l. Encourage the School District to support recycling at school sites with easily accessible recycling bins.
- m. Assist businesses in their waste reduction efforts by conducting waste audits.
- n. Study the feasibility of expanding the plastic recycling program.

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- o. Study the feasibility of variable can rates for garbage collection.
- p. Develop a list of stores selling recycled products for distribution to City residents.
- q. Continue to implement the Source Reduction and Recycling Element and the Household Hazardous Waste Element.
- r. Purchase recycled products whenever sufficient quantities are readily available and meet City specifications.
- s. Encourage U.C. Davis and the Davis Joint Unified School District to use recycled products.

Policy MAT 1.1: Plan for the long-term waste disposal needs of Davis.

Actions

- a. Discourage, where feasible, the import of waste materials into the city or county. Work with Yolo County to evaluate the advantages and disadvantages of accepting waste materials from outside of the county at the county land fill.
- b. Track capacity at existing landfills.
- c. Coordinate with the County to identify new landfill sites as needed.
- d. Study the feasibility of creating a joint powers authority for waste disposal.

Existing Conditions

Solid waste collection and disposal services in the City of Davis, including the Specific Plan Area, are provided by Recology-Davis, a contractor to the City. Recology-Davis provides curbside pick-up of garbage, recycling, and green waste. In addition, they provide street sweeping, construction debris box services, and operate a drop-off/buy-back center for recyclable materials (2727 Second Street, Davis). Recyclable materials include mixed paper, glass, aluminum cans, steel and tin cans, most plastics, corrugated cardboard, yard waste, and used motor oil. Household hazardous wastes may be turned in at periodic collection events. Eligible businesses can participate in a small quantity generator program for hazardous waste disposal at reduced costs.

Non-recyclable waste generated by the City of Davis is disposed of at the 722-acre Yolo County Central Landfill, which is located off County Road 28H near its intersection with County Road 104, is owned and operated by the Yolo County Department of Planning and Public Works. As described in the Yolo County General Plan Draft EIR (Yolo 2009), the Central Landfill is a Class III solid waste landfill which provides comprehensive solid waste and recycling services, including municipal solid waste, recycling, salvaging, household hazardous waste, and business hazardous waste. Permitted maximum disposal ("throughput") at the Central Landfill is 1,800 tons per day. At the current waste disposal rate (also assuming a diversion rate of 70 percent, no large increase of waste from outside the County, and future waste cells operated as bioreactors described below) the landfill's closure date is estimated to be January 1, 2081. The Central Landfill has several unique features and operations that distinguish it from typical waste management facilities and has been recognized by the U.S. Environmental Protection Agency for its innovative approach to reducing its impact on the environment.

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4.14.3.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact related to solid waste if it would:

- 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.
- Not comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

4.14.3.3 IMPACT DISCUSSION

This section analyzes the proposed project's potential impacts to solid waste facilities.

UTIL-7	Implementation of the proposed project would result in the Specific Plan Area being served by a landfill with sufficient permitted capacity to accommodate the proposed project's solid waste disposal needs.

The proposed project proposes to implement zero waste in Downtown by the year 2040. This would be implemented through various implementation actions, as listed in Table 8H of the Downtown Davis Specific Plan, such as pursuing additional resources for education and enforcement on the reduction of office, residential, and commercial waste; exploring emerging opportunities and technologies in waste management; and continuing to require 65 percent of construction and demolition waste to be diverted. The proposed project would also pursue additional resources for education and enforcement on reduction of office/residential/commercial waste as defined in Chapter 32 of the Davis Municipal Code (see below). Partnerships between the City and commercial businesses on management of waste receptacles would be encouraged.

Future development within the Specific Plan Area 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.

Development of new residential and non-residential uses within the Specific Plan Area would increase the demand for solid waste collection and disposal. Based upon average solid waste generation rates from Calrecycle (CalRecycle 2019), the residential component would generate 5,102 lb/day of solid waste and the non-residential component would generate 8,600 lb/day, for a total of 13,702 lb/day. However, with continued compliance with applicable regulations and the General and Specific Plan policies listed above, the solid waste generated by potential redevelopment would not exceed the permitted capacity of the Yolo County Central Landfill (1,800 tons per day), which would receive solid waste from the Plan Area. The proposed project would not cause the landfill to exceed permitted capacity and the impact is *less than significant*.

Significance Without Mitigation: Less than significant.

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UTIL-8	Implementation of the proposed project would comply with federal, State, and local statutes and regulations related to solid waste.

The proposed project would comply with solid waste disposal requirements, including requirements to divert solid waste to landfills through recycling. During construction, future development projects would comply with CALGreen, which requires recycling and/or salvaging for reuse a minimum of 65 percent of nonhazardous construction and demolition waste generated during most “new construction” projects (CALGreen Sections 4.408 and 5.408). During operations, future projects would comply with AB 341 and AB 1826 which require commercial and multifamily residential land uses to have recycling and organic waste recycling.

Significance Without Mitigation: Less than significant.

4.14.3.4 CUMULATIVE IMPACTS

UTIL-9	Implementation of the proposed project, in combination with past, present, and reasonably foreseeable development, would not result in significant impacts with respect to solid waste.

Cumulative impacts are considered for Yolo County; the Yolo County Central Landfill has a permitted maximum disposal of 1,800 tons per day and an estimated closure date of January 1, 2081. As required by CALGreen, all development projects must divert a minimum of 65 percent of their total construction debris from landfills. Development projects within the city must also comply with applicable General Plan and Municipal Code requirements related to solid waste. Compliance with these regulations would help to divert solid waste from cumulative development within the County. Overall, because existing landfill capacity would be sufficient to accommodate projected growth in the County and cumulative projects would be required to comply with applicable solid waste generations, cumulative impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

4.14.4 STORMWATER INFRASTRUCTURE

This section outlines the regulatory framework, describes environmental setting, and discusses potential impacts of the proposed project regarding stormwater infrastructure.

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4.14.4.1 ENVIRONMENTAL SETTING

Regulatory Framework

Federal Regulations

Clean Water Act and National Pollution Discharge Elimination System

The Clean Water Act (CWA) establishes regulations to control the discharge of pollutants into the waters of the United States and regulates water quality standards for surface waters (US Code, Title 33, §§ 1251 et seq.). Under the act, the US Environment Protection Agency (EPA) is authorized to set wastewater standards and runs the National Pollutant Discharge Elimination System (NPDES) permit program. Under the NPDES program, permits are required for all new developments that discharge directly into Waters of the United States. The federal Clean Water Act requires wastewater treatment of all effluent before it is discharged into surface waters. In California, the NPDES permit program is administered by the SWRCB through the nine RWQCBs.

Regional Regulations

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Act (Water Code Section 13000 *et seq.*) is the basic water quality control law for California. Under this Act, the State Water Board has ultimate control over state water rights and water-quality policy. In California, the EPA has delegated authority to issue NPDES permits to the State Water Board. The nine RWQCBs carry out the regulation, protection, and administration of water quality in each region. Each regional board is required to adopt a Water Quality Control Plan, or Basin Plan, that recognizes and reflects the regional differences in existing water quality, the beneficial uses of the region's ground and surface water, and local water-quality conditions and problems.

State General Permit for Small Municipal Separate Storm Sewer Systems

In 1987, amendments to the CWA established a two-phase program to regulate 13 classes of stormwater discharges. Under Phase I, which began in 1990, the RWQCBs adopted NPDES stormwater permits for medium (serving between 100,000 and 250,000 people) and large (serving 250,000 people) municipalities or metropolitan areas. As part of Phase II, the SWRCB adopted a General Permit for the Discharge of Stormwater for Small Municipal Separate Storm Sewer Systems (MS4s) (WQ Order No. 2013-00015-DWQ or General Permit) to provide permit coverage for smaller municipalities, including non-traditional small MS4s (e.g., public campuses). The MS4 permit requires a discharger (e.g., the City) to develop and implement a Stormwater Management Plan/Program with the goal of reducing the discharge of pollutants to the maximum extent practicable (MEP).

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Local Regulations

2021 Stormwater Measure

In 2020, the City initiated a cost of service and rate study for the Stormwater Utility. The purpose of this study was to determine the amount of revenue needed to fund the Stormwater program. Stormwater rates have remained static for decades, and the utility has had to defer important capital improvement projects because the current fees do not generate enough revenue to pay for the necessary operations, maintenance and regulatory monitoring to proactively service the system, prevent flooding, and ensure that stormwater flowing to the local creeks is clean.

City of Davis General Plan

The following policies of the City of Davis General Plan relate to stormwater:

Policy WATER 3.1: Coordinate and integrate development of storm ponds and channels City-wide, to maximize recreational, habitat and aesthetic benefits.

Standards

- a. Flood retention and detention facilities should be integrated with parks, athletic fields and natural areas.

Actions

- b. Prepare management plans for storm drains and channels that stress recreation, long-term landscape maintenance and wildlife habitat.

Policy WATER 3.2: Coordinate and integrate design, construction, and operation of proposed stormwater retention and detention facilities City-wide, to minimize flood damage potential and improve water quality.

Standards

- a. All new development shall include drainage facilities that are designed to accommodate a minimum of a 10-year recurrence design flow. In addition, all new development shall route the 100- year recurrence event and appropriately mitigate for both the increase in flows from the site due to development, and for runoff volumes which have historically occurred on the site.

Storm drainage facilities with open, naturalistic channels are encouraged, where feasible. Such facilities can minimize impacts on the city's system, add to the water table, and provide an open space amenity, although long term maintenance costs must be considered. In addition, properly designed plantings within and adjacent to drainage facilities can serve to treat urban runoff, reducing downstream impacts.

- b. New development's detention and retention facilities shall be designed so as not to cause significant negative impact to other drainage facilities in the watershed.

Actions

- c. Implement on-site storm drainage treatment facilities in City projects wherever feasible.

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- d. Operate City storm drainage treatment facilities as demonstration projects, and include long term water quality monitoring.

City of Davis Municipal Code

The purpose and intent of Chapter 30, Stormwater Management and Discharge Control, of the Davis Municipal Code, is to promote the health, safety, and general welfare of citizens, and to protect and enhance the water quality of watercourses and water bodies in a manner pursuant to and consistent with the Federal Clean Water Act. Chapter 30 prohibits discharge into the City's storm drain, except as may be permitted by the Phase II Small MSF4 General Permit (NPDES General Permit No. CAS000004) or as authorized under Chapter 30.

Existing Conditions

The City's stormwater flows by gravity into six detention ponds and two detention basins. Nine stormwater drainage pump stations lift stormwater from the ponds and basin into several main drainage channels. These channels are tributaries to the Willow Slough Bypass and the Yolo Basin Wetlands. The City has approximately 15 miles of access roads that are used to gain access to ponds and drainage channels for ongoing maintenance tasks (City of Davis 2020b).

The City's Stormwater program has two major components:

- Operation and maintenance of the City's storm drainage infrastructure to ensure the protection of life and property from flooding; and
- Monitoring and protecting stormwater quality in accordance with federal, state, and local environmental regulations.

The existing stormwater infrastructure in the Specific Plan Area is shown in Figure 7.3 of the Downtown Davis Specific Plan.

4.14.4.2 STANDARDS OF SIGNIFICANCE

- Require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects.

4.14.4.3 IMPACT DISCUSSION

This section analyzes the proposed project's potential impacts to stormwater facilities.

UTIL-10	Implementation of the proposed project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.

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The proposed project would extend the underground storm line up Fourth Street to capture an area that is not currently connected to the underground drainage network. Additionally, the City plans to retrofit 20 to 40 existing catch basins with modern curb inlets to prevent clogging. These infrastructure upgrades would be subject to project-specific environmental review.

As stated in the Downtown Davis Specific Plan, the stormwater infrastructure in the Plan Area is in generally good condition and has sufficient capacity to support planned growth. Since the majority of the Downtown area is largely impervious, stormwater flows would not increase substantially from existing conditions and the proposed project is not anticipated to have significant impacts on the underground drainage system. In addition, the Specific Plan calls for green infrastructure to be implemented throughout the public realm, which would benefit the existing stormwater network in Downtown by reducing peak flows, removing water from the system through infiltration, and improving water quality. Future projects would be encouraged to implement Low Impact Design (LID) strategies would be required to implement best management practices (BMPs) to reduce runoff. Future projects would also be required to comply with federal, state, and local regulations, such as the NPDES and MS4 permit. Fees collected from ratepayers that receive stormwater services from the City are collected to pay for the continued operations, maintenance, upgrades, and new facilities to serve the ratepayers, as initiated by the City's 2021 Stormwater Measure. Therefore, impacts would be less than significant.

Significance Without Mitigation: Less than significant.

4.14.4.4 CUMULATIVE IMPACTS

UTIL-11	Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to stormwater infrastructure.

Construction and operation of future development in the Specific Plan Area, in conjunction with other projects within the City, could result in increased flows in stormwater infrastructure. However, all projects developed within the City would implement the requirements of the Clean Water Act, the State General Permit for Small Municipal Separate Storm Sewer Systems, and the City of Davis General Plan, and would pay impact fees. In consideration of preceding factors, and given that the Specific Plan Area is largely built out, the proposed project's contribution to cumulative impacts on stormwater infrastructure would be less than cumulatively considerable.

Significance without Mitigation: Less than significant.

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4.15 OTHER UTILITIES

4.15.1.1 ENVIRONMENTAL SETTING

This section provides a general description of the regulatory framework addressing existing electric and natural gas services and infrastructure, and supply and demand in the Specific Plan Area.

Regulatory Framework

Federal Regulations

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (Public Law 110-140) seeks to provide the nation with greater energy independence and security by increasing the production of clean renewable fuels; improving vehicle fuel economy; and increasing the efficiency of products, buildings, and vehicles. It also seeks to improve the energy performance of the federal government. The Act sets increased Corporate Average Fuel Economy Standards; the Renewable Fuel Standard; appliance energy efficiency standards; building energy efficiency standards; and accelerated research and development tasks on renewable energy sources (e.g., solar energy, geothermal energy, and marine and hydrokinetic renewable energy technologies), carbon capture, and sequestration (USEPA 2019).

State Regulations

Renewables Portfolio Standard

The California Renewables Portfolio Standard (RPS) was established in 2002 under SB 1078 and was amended in 2006, 2011 and 2018. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase the use of eligible renewable energy resources to 33 percent of total procurement by 2020. The California Public Utilities Commission is required to provide quarterly progress reports on progress toward RPS goals. This has accelerated the development of renewable energy projects throughout the State. Based on the 3rd quarter 2014 report, the three largest retail energy utilities provided an average of 20.9 percent of its supplies from renewable energy sources. Since 2003, 8,248 megawatts (MW) of renewable energy projects have started operations (CPUC 2016). SB 350 (de Leon) was signed into law September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures. SB 100 (de Leon) passed in 2018 puts California on the path to 100 percent fossil-fuel-free electricity by the year 2045 (CEC 2017).

State Alternative Fuels Plan

AB 1007 requires the California Energy Commission (CEC) to prepare a plan to increase the use of alternative fuels in California. The State Alternative Fuels Plan was prepared by the CEC with the California Air Resources Board and in consultation with other federal, state, and local agencies to reduce petroleum

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consumption; increase use of alternative fuels (e.g., ethanol, natural gas, liquefied petroleum gas, electricity, and hydrogen); reduce greenhouse gas (GHG) emissions; and increase in-state production of biofuels. The State Alternative Fuels Plan recommends a strategy that combines private capital investment, financial incentives, and advanced technology that will increase the use of alternative fuels; result in significant improvements in the energy efficiency of vehicles; and reduce trips and vehicle miles traveled through changes in travel habits and land management policies. The Alternative Fuels and Vehicle Technologies Funding Program legislation (AB 118, Statutes of 2007) proactively implements this plan (CEC 2007).

Appliance Efficiency Standards

California's Appliance Efficiency Regulations contain energy performance, energy design, water performance, and water design standards for appliances (including refrigerators, ice makers, vending machines, freezers, water heaters, fans, boilers, washing machines, dryers, air conditioners, pool equipment, and plumbing fittings) that are sold or offered for sale in California (California Code of Regulations Title 20, Parts 1600–1608). These standards are updated regularly to allow consideration of new energy efficiency technologies and methods (CEC 2017).

Title 24, Part 6, Energy Efficiency Standards

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2019 (California Code of Regulations Title 24, Part 6). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated triennially to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 Building Energy Efficiency Standards, which were adopted on May 9, 2018, went into effect starting January 1, 2020.

The 2019 standards move toward cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic systems for new single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements (CEC 2018). Under the 2019 standards, nonresidential buildings will be 30 percent more energy efficient compared to the 2016 standards, and single-family homes will be 7 percent more energy efficient (CEC 2018). When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards (CEC 2018).

Title 24, Part 11, Green Building Standards

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (California Code of Regulations Title 24, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. It includes mandatory requirements for new residential and nonresidential buildings throughout California.

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CALGreen is intended to (1) reduce GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2016. The 2016 Standards became effective on January 1, 2017. On October 3, 2018, the CEC adopted the voluntary standards of the 2019 CALGreen, which became effective January 1, 2020.

Overall, the code is established to reduce construction waste, make buildings more efficient in the use of materials and energy, and reduce environmental impact during and after construction. CALGreen contains requirements for construction site selection, stormwater control during construction, construction waste reduction, indoor water use reduction, material selection, natural resource conservation, site irrigation conservation, and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their maximum efficiency (CEC 2019).

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles. In January 2012, the California Air Resources Board approved the Pavley Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions (CARB 2017a).

State Greenhouse Gas Regulations

The Governor's GHG Reduction Executive Order S-3-05 was signed on June 1, 2005, and set GHG reduction targets for the State. Soon after, AB 32, the Global Warming Solutions Act (2006) was passed by the California State legislature on August 31, 2006, to place the State on a course toward reducing its contribution of GHG emissions. In response to AB 32, the California Air Resources Board developed a Scoping Plan to be updated every five years, outlining California's approach to reducing GHG emissions. The latest Update to the Climate Change Scoping Plan sets a 2030 target of 40 percent GHG emissions reductions below 1990 levels (CARB 2017b). The California Air Resources Board approved the Update to the Climate Change Scoping Plan on December 14, 2017, as required by AB 32. For a detailed discussion on these regulations, see Chapter 4.6, Greenhouse Gas Emissions, of this Draft EIR.

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California Energy Benchmarking and Disclosure

AB 1103 (2007) required that electric and gas utilities maintain records of the energy consumption data of all non-residential buildings to which they provide service and, upon authorization of a non-residential building owner or operator, upload all of the energy consumption data to the EPA Energy Star Portfolio Manager. This statute further required that a non-residential building owner or operator disclose Energy Star Portfolio Manager benchmarking data and ratings, for the most recent 12-month period, to a prospective buyer, lessee, or lender.

On October 8, 2015, the Governor signed AB 802 which revised and recast the above provisions. The new law directed the California Energy Commission to establish a statewide energy benchmarking and disclosure program, and enhanced the Commission's existing authority to collect data from utilities and other entities for the purposes of energy forecasting, planning, and program design. Among the specific provisions, AB 802 required utilities to maintain records of the energy usage data of all buildings to which they provide service for at least the most recent 12 complete months. The bill required each utility, upon the request and authorization of the owner, owner's agent, or operator of a covered building, to deliver or provide aggregated energy usage data for a covered building to the owner, owner's agent, operator, or to the owner's account in the Energy Star Portfolio Manager. The bill also authorized the Commission to specify additional information to be delivered by utilities for certain purposes.

Local Regulations

The Davis General Plan includes the following goals, policies, standards, and actions pertaining to energy (the numbering below matches the numbering in the General Plan):

Goal ENERGY 1. Reduce per capita energy consumption in Davis.

Policy ENERGY 1.1 Develop programs to increase energy conservation on the household and business level.

Action

- a. Study and implement options for providing incentives for property owners to upgrade their homes and businesses for improved energy conservation.
- b. Provide incentives for retrofitting existing homes and businesses for improved energy efficiency. An example of a retrofit feature would be a passive solar device.

Policy ENERGY 1.4: Continue to enforce landscaping requirements that facilitate efficient energy use or conservation.

Standards

- a. City projects should be designed with accompanying trees and other vegetation to minimize pavement, provide shade and reduce energy use.
- b. Energy efficient landscaping and preservation of existing shade trees is encouraged on all building sites.

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Action

- c. Provide information and education to residents on how, what type, and where to plant trees to reduce energy demand.

2010 Climate Action and Adaptation Plan (CAAP)

The City's CAAP includes action items related to efficient energy use as follows:

- Fuel Use Reduction
 - Develop a plan to de-carbonize personal transportation in Davis.
 - Develop medium speed NEV program (35 mph)
 - Create local incentives and financing opportunities for the purchase of high efficiency vehicles and retirement of inefficient vehicles
 - Provide increased parking for fuel efficient vehicles (e.g. permit system)
 - Work with local vehicle dealerships to promote local participation in any State and/or Federal programs established to encourage the purchase of high efficiency vehicles and the retirement of inefficient vehicles
 - Implement traffic light synchronization to favor GHG emission reductions
 - Research opportunities to increase the number of traffic circles in place of traffic lights; retrofit and new intersections
- Local Fuel Production
 - Incorporate the use of biofuels into local public agency fleets as appropriate
 - Develop a plan for local biofuel production, distribution, and use
 - Work with local farmers, UCD, State, and Federal partners to establish a locally based biofuel production facility in the Davis Area
- Energy Efficiency
 - Establish a financing district for residential properties for energy efficiency (AB 811)
 - Participate in Yolo Energy Watch Program
 - Participate in establishment of a local non-profit to assist with energy efficiency/climate action information center
 - Establish a financing district for commercial properties for energy efficiency (AB 811)
 - Improve energy efficiency of rental housing
 - Strengthen energy efficiency requirements contained in the mandatory green building ordinance
 - Expand the existing time of sale inspection program to include energy retrofit measures
 - Hire Full time energy/climate specialist

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- Renewable Energy Production
- Establish a local financing district for solar energy production (AB 811)
- Develop local solar farm(s) (10 Mw)
- Develop renewable energy production plan to meet community electricity needs
- Energy Use in New Buildings (General)
- Adopt GHG thresholds and standards for new non-residential buildings in Davis that include credit for zero net energy
- Promote transit-oriented development (TOD)
- Develop policy regarding zero carbon development projects
- Energy Efficient Community Design (Transportation and Energy Use)
- Promote mixed use development (residential/commercial) in and outside the downtown to provide essential services to all residents, including providing incentives for commercial development
- Develop and initiate a carbon neutral development design competition

City of Davis Municipal Code

The intent of Article 8.20, Renewable Energy, is to encourage the use of renewable energy sources and to establish requirements and standards for the installation of solar energy and other renewable energy systems on new residential structures that would be compatible with the building and appropriate for the district.

Additionally, Section 8.01.66, Energy Efficiency “Reach Code,” of the Davis Municipal Code states that in addition to all requirements of the California Energy Code, mix-fuel dwellings shall comply with the following:

- **New Single-Family Dwellings.** New mixed-fuel, single-family dwellings shall be required to meet a Total Energy Design Rating (EDR) margin of 9.5 as defined by the 2019 California Energy Code. In addition, the electrical system design shall provide capacity for a future retrofit to facilitate the installation of all electric appliances. This includes capacity and space at the electrical service panel, pre-wiring and installed circuit breakers for the following appliances:
 - Heat-pump water heater;
 - Induction stove top and oven;
 - Electric clothes dryer; and
 - Heat-pump for code-required comfort heating.
- **New Low-Rise Multi-Family Dwellings.** New mixed-fuel, low-rise multifamily dwellings shall be required to meet a Total Energy Design Rating (EDR) margin of 10 as defined by the 2019 California Energy Code. In addition, the electrical system shall provide capacity for a future retrofit

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to facilitate the installation of all electric appliances. This includes capacity and space at the electrical service panel, pre-wiring and installed circuit breakers for the following appliances:

- Heat-pump water heater (if applicable);
- Induction stove top and oven;
- Electric clothes dryer (if applicable); and
- Heat-pump for code-required comfort heating.

Section 8.01.67, Energy Efficiency “Reach” Green Building Code Requirements for Nonresidential and High-Rise Residential Buildings, of the Davis Municipal Code, states that in addition to all requirements of the Green Building Code, the following shall apply:

- **New Nonresidential Buildings.** New nonresidential buildings shall comply with the Tier 1 (ten percent compliance margin) requirement for energy efficiency by employing energy efficiency measures. In addition, a PV system sized to offset a portion of the total building energy use based on TDV energy is required. The PV sizing shall be consistent with the methodology included in the cost effectiveness study provided by TRC.
- **New High-Rise Multifamily Dwellings.** New high-rise multifamily dwellings shall comply with the Tier 1 (ten percent compliance margin) requirements for energy efficiency by employing energy efficiency measures. In addition, a PV system sized to offset a portion of the total building energy use based on TDV energy is required.
- New nonresidential and high-rise multifamily buildings shall incorporate EV charging stations as determined by Tables 1 and 2 (of Section 8.01.67). Each EV charging station installed shall be credited toward the California Green Building Standards Code requirement for charging spaces.

Existing Conditions

Electricity and natural gas service have been provided to the City by the Pacific Gas and Electric Company (PG&E). In June 2018, Davis adopted a Community Choice Energy (CCE) program in partnership with unincorporated Yolo County and the City of Woodland, and established a joint powers authority (JPA) called Valley Clean Energy (VCE). VCE’s mission is to “deliver cost-competitive clean electricity, product choice, price stability, energy efficiency, and greenhouse gas emission reductions”. VCE began serving the electricity needs of the Cities of Woodland and Davis, as well as unincorporated areas of Yolo County beginning January 2021. Currently, customers within the City of Davis, including customers in the Specific Plan Area, have the option to receive service from VCE or to opt-out of VCE and continue receiving service from PG&E. Additionally, PG&E will continue to deliver electricity, maintain the powerlines, handle customer billing, and respond to new service requests and emergencies. PG&E will continue to provide natural gas supplies to the City, including the Specific Plan Area. Refer to Table 4.5-1, *Downtown Davis Specific Plan Existing Annual Electricity and Natural Gas Demand*, of Section 4.5, *Energy*, of this DEIR, for existing natural gas and electricity demands for the Specific Plan Area.

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4.15.1.2 STANDARDS OF SIGNIFICANCE

- Require or result in the relocation or construction of new or expanded electric power or natural gas facilities, the construction or relocation of which could cause significant environmental effects.

4.15.1.3 PLANS, PROGRAMS, AND POLICIES

Downtown Davis Specific Plan

The Downtown Davis Specific Plan contains the following recommended implementation actions pertaining to energy:

- **Action 1.** Electrify Downtown Buildings by 2040, With Exceptions As Deemed Necessary
- **Methodology/Step 1A.** Decommission natural gas in downtown by 2040, and require purchase of the highest renewable energy (100%) available from local utility providers for electricity not produced on-site.
- **Methodology/Step 1B.** Transition all restaurants, commercial, office and residential uses to electric space and water heating, appliances, etc., including heat pumps for new or replacement boilers and other energy efficient technology.
- **Methodology/Step 1C.** Incentivize new and emerging technologies in building design and energy efficiency for new and retrofit projects.
- **Methodology/Step 1D.** Require net zero energy for new and retrofit construction, beyond current Title 24 and CALGreen requirements.
- **Methodology/Step 1E.** Implement energy production (e.g. solar) requirements on all buildings (residential and nonresidential/commercial) where not currently required.
- **Action 3.** Create a Carbon Mitigation Fund
- **Methodology/Step 3A.** Municipal fund: Cost savings from energy efficiency and greenhouse gas (GHG) savings go into fund to be used to spur further investments in reducing energy use.

4.15.1.4 IMPACT DISCUSSION

This section analyzes the proposed project's potential impacts to electricity and natural gas facilities.

UTIL-12	Implementation of the proposed project would not result in a substantial increase in electrical service demands and would not require new energy supply facilities and transmission infrastructure or capacity enhancing alterations to existing facilities.

New development under the Specific Plan would continue to be served by VCE and PG&E. Construction of future development under the proposed project would require electricity use to power the construction equipment. The electricity use during construction would vary during different phases of construction, where the majority of construction equipment during demolition and grading would be gas-powered or diesel-powered, and the later construction phases would require electricity-powered, such as interior construction and architectural coatings. Overall, the use of electricity would be temporary in nature and

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would fluctuate according to the phase of construction. Additionally, it is anticipated that the majority of electric-powered construction equipment would be hand tools (e.g., power drills, table saws, compressors) and lighting, which would result in minimal electricity usage during construction activities.

Implementation of the Specific Plan would increase demand for energy associated with operation of lighting and space heating/cooling in the added building space, and vehicle travel. All new development would be required to comply with CALGreen and other state and local requirements related to energy efficiency/renewable energy, thereby minimizing potential adverse impacts related to the increase in demand.

While the Specific Plan Area is largely built out and existing electric and natural gas infrastructure is available, some upgrades to infrastructure could be required to accommodate the increase in development. Potential environmental effects of obtaining more power through the development of substations and/or additional power lines include, but are not limited to, air quality (during construction), biological resources (depending on location), cultural resources (depending on location), hazardous materials, land use, noise and vibration (during construction), traffic, visual resources, waste management, water and soil resources, and health hazards. All required infrastructure can be provided in the project area and within the rights-of-way of the roadways in and immediately surrounding the project area, so the potential impacts of development of the entire project area are considered throughout the technical sections of this Draft EIR. Similarly, future infrastructure projects would be required to comply with the City's requirements for construction projects, including but not limited to, grading permits and encroachment permits. Therefore, project-related electricity demand would not result in additional impacts related to the provision of electric or natural gas infrastructure.

Significance Without Mitigation: Less than significant.

4.15.1.5 CUMULATIVE IMPACTS

UTIL-13	Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts related to energy supply facilities and transmission infrastructure.

The area considered for cumulative impacts to energy consumption is the service area of VCE as described above in Section 4.4.1. All of the development projects within the vicinity of the Specific Plan Area, listed in Chapter 4, are within the service area of VCE. All these projects would result in a long-term increase in operational energy demand for electricity and natural gas use. All projects developed within the VCE service area would implement the requirements of the 2019 Building and Energy Efficiency Standards (California Code of Regulations, Title 24, Part 6) and the 2019 California Green Building Code (California Code of Regulations, Title 24, Part 11). New buildings would also use new energy efficient appliances and equipment. Future projects would also implement renewable energy measures as indicated in the proposed Specific Plan and General Plan. As noted previously, some upgrades to infrastructure could be required to accommodate the project. The potential effects of providing more power to the Specific Plan Area are addressed throughout this Draft EIR. There would be no additional

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effects generated by the project; therefore, the project's contribution to this impact would be less than considerable.

Significance without Mitigation: Less than significant.

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4.15.2 REFERENCES

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5. *Alternatives to the Proposed Project*

5.1 INTRODUCTION

5.1.1 PURPOSE AND SCOPE

The California Environmental Quality Act (CEQA) requires that an environmental impact report (EIR) include a discussion of reasonable project alternatives that would “feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any significant effects of the project, and evaluate the comparative merits of the alternatives” (CEQA Guidelines § 15126.6[a]). As required by CEQA, this chapter identifies and evaluates potential alternatives to the proposed project.

Section 15126.6 of the CEQA Guidelines explains the foundation and legal requirements for the alternatives analysis in an EIR. Key provisions are:

- “[T]he discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly.” (15126.6[b])
- “The specific alternative of ‘no project’ shall also be evaluated along with its impact.” (15126.6[e][1])
- “The no project analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the ‘no project’ alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.” (15126.6[e][2])
- “The range of alternatives required in an EIR is governed by a ‘rule of reason’ that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project.” (15126.6[f])
- “Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries..., and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent).” (15126.6[f][1])
- “Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.” (15126.6[f][2][A])

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- “An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative.” (15126.6[f][3])

For each development alternative, this analysis:

- Describes the alternative and the purpose for including it in this EIR.
- Analyzes the impact of the alternative as compared to the proposed project.
- Identifies the impacts of the project that would be avoided or lessened by the alternative.
- Assesses whether the alternative would meet most of the basic project objectives.
- Evaluates the comparative merits of the alternative and the project.

According to Section 15126.6(d) of the CEQA Guidelines, “[i]f an alternative would cause...significant effects in addition those that would be caused by the project as proposed, the significant effects of alternative shall be discussed, but in less detail than the significant effects of the project as proposed.”

5.1.2 PROJECT OBJECTIVES

As described in Section 3.1.1.3, the following objectives have been established for the proposed project and will aid decision makers in their review of the project, the project alternatives, and associated environmental impacts.

- Facilitate a carbon neutral, equitably accessible, water efficient, zero waste, resilient community by 2040.
- Create a compact, mixed-use community that expands residential development opportunities designed to take advantage of active modes of transportation and transit and supports existing commercial while also allowing for modest commercial.
- Establish a development hierarchy to promote non-vehicular travel and create a strong sense of place.
- Consolidate regulatory processes for consistency, predictability, and to provide a comprehensive plan for development, infrastructure, and streamlined environmental analysis.
- Develop complete streets that improve access to transit and non-vehicular modes of transit, increase bicycle and pedestrian safety, and reduce dependence on vehicles and VMT.
- Encourage residents to use Downtown instead of driving across town or to nearby cities for jobs, experiences, dining, and shopping.
- Provide a variety of housing options at all levels of affordability near opportunities, jobs, facilities, services, and destinations where most daily needs can be met without a car.
- Find creative ways to reuse vacant and underutilized retail and commercial space Downtown.
- Create a sense of place that balances new development with historic character.
- Create public spaces that are green, active, inclusive, and support the health of the public and the environment.

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5.1.3 SIGNIFICANT IMPACTS OF THE PROJECT

The following significant and unavoidable impacts are identified in Chapter 4, *Environmental Analysis*, of this Draft EIR (DEIR):

AES-2: Implementation of the proposed project could damage scenic resources related to historic buildings.

AQ-1: Implementation of the Downtown Davis Specific Plan would exceed the regional significance thresholds and conflict with or obstruct implementation of the Yolo-Solano AQMD and would not be consistent with the AQAP.

AQ-2: Construction and operation of the proposed project would result in a cumulatively considerable net increase of criteria pollutant (VOC, NO_x, and PM₁₀) for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

AQ-3: Construction activities associated with implementation of the Downtown Davis Specific Plan would expose sensitive receptors to substantial criteria air pollutant (ROGs, VOCs, NO_x, PM₁₀, PM_{2.5}) concentrations.

AQ-5: Implementation of the Downtown Davis Specific Plan would exceed the applicable Yolo-Solano significance thresholds for regional emissions and result in cumulative considerable air quality impacts.

CUL-1: Implementation of the proposed project could cause a substantial adverse change to historic resources through development activities accompanying infill, redevelopment, or revitalization.

CUL-4: Implementation of the proposed project could have a cumulatively considerable impact on historic resources through development activities accompanying infill, redevelopment, or revitalization.

GHG-1: Implementation of the Downtown Davis Specific Plan could generate a net increase in GHG emissions that would have a significant impact on the environment.

GHG-3: Implementation of the Downtown Davis Specific Plan could result in cumulatively considerable GHG emissions impacts.

NOI-1: Implementation of the proposed project could result in the generation of a substantial temporary increase in ambient noise levels in the vicinity of the Specific Plan Area in excess of standards established in the local noise ordinance during construction activities.

NOI-4: Implementation of the proposed project could result in a cumulatively considerable construction noise impact.

5. ALTERNATIVES TO THE PROPOSED PROJECT

5.2 ALTERNATIVES CONSIDERED AND REJECTED DURING THE SCOPING/PROJECT PLANNING PROCESS

Alternatives to the proposed project were evaluated based on their ability to reduce potentially significant impacts of the proposed project and their potential to attain most of the project's objectives. The following is a discussion of the land use alternatives considered during the scoping and planning process and the reasons why they were not selected for detailed analysis in this DEIR.

5.2.1 ALTERNATIVE DEVELOPMENT SITE

CEQA requires that the discussion of alternatives focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project. The key question and first step in the analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR (CEQA Guidelines § 15126[5][B][1]). The proposed project is a Specific Plan for Downtown Davis consistent with the infill focus of the General Plan. The proposed Specific Plan is an update and replacement for the Core Area Specific Plan (CASP) that was adopted specifically "...to provide a comprehensive set of policies, guidelines, and implementation strategies for promoting, guiding, and regulating growth in the Core Area. Adopting and implementing the Core Area Specific Plan will allow the area to continue to function as the City's social, cultural, retail center, and professional and administrative office district in a manner that enhances pedestrian activity." As there is only one core area and only one CASP in the City, and the proposed project is specifically tailored to further the General Plan emphasis on infill for new development in the downtown to keep this area important to the community, an alternative development area would be infeasible and was therefore not analyzed. This section includes a Larger Specific Plan area alternative that considers if an expanded area would reduce impacts.

5.2.2 REDUCED DEVELOPMENT ALTERNATIVE

A reduced development intensity alternative, one in which the amount of residential and non-residential buildings are reduced or either is reduced alone, could reduce physical effects in the downtown area by allowing smaller buildings leading to fewer employees and customers thereby reducing vehicle trips to and from the downtown. Assuming that the demand for retail sales and housing remains constant, reducing one or the other component, while generating fewer vehicle trips, would likely lead to more (longer) vehicle miles traveled as downtown residents commute to shopping or employment outside of the downtown in a reduced non-residential alternative, or as residents drive outside of the downtown for employment, services, or recreation, in a reduced residential alternative. Additional vehicle trips would lead to an overall increase in criteria pollutant and greenhouse gas emissions.

Reducing the development of both residential and non-residential development in downtown would likely lead to growth inducement in other areas of the City of Davis, as well as outside the City. While the emissions generated in the project area would be less than the proposed project, development of residential and non-residential uses outside downtown would not be able to take advantage of the

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efficiencies of the proximity of uses that would be generated by the project and would likely also increase vehicle miles traveled compared to the project, which would also increase in criteria pollutant and greenhouse gas emissions in the city and vicinity. The City's General Plan also has numerous policies and a directive to support development in the downtown to ensure that the downtown remains the social, cultural, and retail center of the City. Restricting growth in this area of the City would not be consistent with the General Plan.

5.2.3 AVOIDANCE OF HISTORIC RESOURCES

One alternative considered was to avoid all historic resources and restrict development within a radius surrounding known historic resources. While this alternative would avoid impacts to historic buildings and historic character, it could also decrease incentives for owners to make improvements to older buildings to meet market demand. As shown in Figures 5.11, 5.13, 5.19, 5.22, 5.26, and 5.31 of the proposed Specific Plan, historic buildings exist throughout the project area, and a buffer of any appreciable size would likely preclude most development and would be inconsistent with the goals of the proposed project that encourages finding creative ways to reuse vacant and underutilized retail and commercial space, and balancing new development with historic character. In addition, the City has an ordinance for consideration of historic building modification (Article 40.23 Historical Resource Management) that provides a specific process for consideration of each unique building. Implementation of the proposed project must follow the requirements of the municipal code for historic resources.

As the age of a building is one of the factors considered in determining whether it is historic, as time passes more of the buildings in the project area will exceed 50-years of age which is the point where historic status should be considered. Since many of the buildings in the project area were built in the 1970's, they are approaching the 50-year mark which would make fewer of them eligible for modification or development consistent with the Specific Plan under this alternative. For these reasons, this alternative was not considered further in the EIR.

5.3 ALTERNATIVES SELECTED FOR FURTHER ANALYSIS

Based on the criteria listed above, the following alternatives have been determined to represent a reasonable range of alternatives which have the potential to feasibly attain most of the basic objectives of the project, but which may avoid or substantially lessen any of the significant effects of the project. These alternatives are analyzed in the following sections:

- No Project Alternative
- Reduced Height Alternative
- Taller Buildings – Same Land Use Distribution
- Larger Specific Plan Area
- More Residential (No New Commercial)
- More Commercial (No New Residential)

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An EIR must identify an “environmentally superior” alternative and where the No Project Alternative is identified as environmentally superior, EIR is then required to identify as environmentally superior an alternative from among the others evaluated. Each alternative’s environmental impacts are compared to the proposed project and determined to be environmentally superior, neutral, or inferior. The preferred land use alternative (proposed project) is analyzed in detail in Chapter 4 of this DEIR. This chapter provides a comparative analysis, by impact, for each of the alternatives.

Given the somewhat general nature of the proposed Downtown Specific Plan Project, the level of detail for the alternatives considered is similarly general in nature and is not as precise as the level of detail that could be provided in an EIR for a specific development project and related alternatives.

5.3.1 NO PROJECT ALTERNATIVE

The No Project Alternative is required to discuss the existing conditions at the time the notice of preparation is published and evaluate what would reasonably be expected to occur in the foreseeable future if the proposed project is not approved (CEQA Guidelines, Section 15126.6[e]). Pursuant to CEQA, this Alternative is based on current plans and consistent with available infrastructure and community services. Therefore, the No Project Alternative assumes that the proposed project would not be adopted and development in the Plan Area would occur as intended in the City’s current General Plan and zoning, and Core Area Specific Plan (CASP).

5.3.1.1 AESTHETICS

Under the No Project Alternative, the Plan Area would be developed under the current land use plan of the City’s General Plan and the CASP. The City’s Municipal Code identifies development standards to ensure quality development in the City. Under this Alternative, the increase in building height, beyond what the existing zoning allows, by right for the number of stories would not occur; however, the significant and unavoidable impact as a result of the difference in mass and scale between the historical resources and new development as envisioned under the proposed project could still occur. Impacts under this Alternative would be less than the proposed project; impacts would be less than significant.

5.3.1.2 AIR QUALITY

While the proposed project includes policies and development of uses that would result in efficiencies related to transportation and adjacency of uses that would generate fewer emissions per person, development intensity under this Alternative would be less than the proposed project. Therefore, air quality impacts would be lower than those associated with the proposed project, which resulted in significant and unavoidable impacts. While impacts under this Alternative would be less than those of the proposed project, they would likely also be significant and unavoidable.

5.3.1.3 BIOLOGICAL RESOURCES

Under this Alternative, biological resources impacts would be similar to the proposed project. Future development under this Alternative, as with the proposed project, would require mitigation measures to reduce impacts to nesting birds and roosting bats to less than significant. Future development under this

5. ALTERNATIVES TO THE PROPOSED PROJECT

Alternative, as with the proposed project, would be required to comply with local, state, and federal regulations to minimize impacts to potential sensitive natural communities. Impacts to biological resources would be less than significant with mitigation incorporated and would be the same as the proposed project.

5.3.1.4 CULTURAL RESOURCES

Impacts under this Alternative would be similar to the proposed project. Future development under the either the No Project Alternative or the proposed project could result in significant and unavoidable impacts to historic resources due to development activities accompanying infill, redevelopment, or revitalization; for instance, placing new buildings adjacent to historic resources could result in indirect impacts to access, visibility, and visual context.

Although not likely, due to the built-up nature of the Plan Area, there is a chance that previously unknown archaeological resources may be unearthed during grading activities. The goals, policies, standards, and actions that pertain to the designation and preservation of archaeological resources as stated in the General Plan EIR would be enforced which would reduce impacts to less than significant. Additionally, compliance with California Health and Safety Code Section 7050.5(b) would reduce impacts to less than significant in the event that human remains are discovered during construction activities. Although impacts under this Alternative, would be reduced due to the reduction in building height compared to the proposed project, impacts would be significant and unavoidable.

5.3.1.5 ENERGY

Development intensity under this Alternative would be less than the proposed project, and therefore, energy use would be reduced compared to the proposed project. As with the proposed project, impacts would be less than significant.

5.3.1.6 GREENHOUSE GAS EMISSIONS

Development intensity under this Alternative would be less than the proposed project, and therefore, greenhouse gas emission impacts would be reduced compared to the proposed project. Out of an abundance of caution the proposed project was found to have a significant and unavoidable impact on greenhouse gas emissions. Development under this alternative would likely have less of an impact than the proposed project and could be less than significant.

5.3.1.7 HAZARDS AND HAZARDOUS MATERIALS

Under both this Alternative and the proposed project, future development in the Plan Area would be required to comply with existing federal, state, and local regulations governing use, storage, transport, and disposal of hazardous materials and wastes. The cleanup sites listed as open in the Plan Area could create a significant hazard to the public or environment, and therefore, the implementation of mitigation measures would be required to reduce impacts to less than significant. Impacts under this Alternative would be similar to the proposed project and would be less than significant with mitigation incorporated.

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5.3.1.8 HYDROLOGY AND WATER QUALITY

This Alternative would have lesser hydrology and water quality impacts than the proposed project. Future project-specific Water Quality Management Plans would be prepared which would identify best management practices for the future project. Moreover, Low Impact Development and water quality treatment solutions prescribed in project-specific Water Quality Management Plans would be designed to support or enhance the regional best management practices and efforts implemented by the City. Future projects would be required to comply with federal, state, and local regulations, such as the NPDES and SWPPP. Therefore, impacts would be less than the proposed project, and less than significant.

5.3.1.9 LAND USE AND PLANNING

Under this Alternative, the Downtown Davis Specific Plan and Associated Form-Based Code would not be adopted, and this Alternative would not result in amendments to the General Plan, Davis Municipal Code, and replacement of the Core Area Specific Plan. The No Project Alternative would not change the standards and guidelines (e.g., density and height) in the Plan Area which under the proposed project would also allow for more commercial and residential uses; therefore, impacts of this Alternative would be reduced, and as with the proposed project, impacts would be less than significant.

5.3.1.10 NOISE

Development intensity under this Alternative would be less than the proposed project, and therefore, noise impacts would be reduced compared to the proposed project's significant and unavoidable impacts. Impacts under this Alternative would also be significant and unavoidable, due to cumulative construction noise.

5.3.1.11 POPULATION AND HOUSING

This Alternative would not result in an increase in new residents or additional employees to the Plan Area, beyond what is forecasted in the City's General Plan. Like the proposed project, this Alternative would not directly displace housing or people, as there would be an overall net increase of housing units. Under both scenarios, impacts to population and housing would be less than significant. As this Alternative would not achieve some of the beneficial effects of the proposed project related to housing and employment, such as the increase in jobs and housing units, the impact of this Alternative would be greater than the proposed project but would remain less than significant.

5.3.1.12 PUBLIC SERVICES AND RECREATION

This Alternative would result in a lesser increase in population and employment, compared to the proposed project. Impacts to public services, including fire, police, school, library, and parks and recreational services would be less than the proposed project impacts under the No Project Alternative and would be less than significant.

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5.3.1.13 TRANSPORTATION

Under this Alternative, the proposed project's extensive improvements to on- and off-street bicycle, pedestrian, and transit facilities would not be implemented. Despite the increase in population, VMT under the proposed project, as with this Alternative, would not exceed the VMT thresholds. Impacts under this Alternative would be greater than the proposed project as improvements to transit and active transportation facilities would not occur, although impacts would be less than significant as this Alternative also includes transit infrastructure improvements, though not as extensive as the proposed project.

5.3.1.14 UTILITIES AND SERVICE SYSTEMS

This Alternative would not result in an increase to population and employment compared to the proposed project, however, the infrastructure improvements under the proposed project such as extending the underground stormwater line up Fourth Street, connecting that area to the City's underground drainage network, along with retrofitting of 20 to 40 existing catch basins to prevent clogging of the drainage canals and extending the underground storm line up Fourth Street to capture an area that is not currently connected to the underground drainage network. Additionally, the proposed retrofit of 20 to 40 existing catch basins with modern curb inlets to prevent clogging would not be implemented under this Alternative. Therefore, impacts to the City's infrastructure systems would be greater under this Alternative but would still be less than significant like the proposed project.

5.3.1.15 CONCLUSION

TABLE 5-1 SUMMARY OF NO PROJECT ALTERNATIVE IMPACTS COMPARED TO PROPOSED PROJECT

Environmental Topic	Reduced & LTS	Reduced & Now LTS	Similar & LTS	Greater & LTS/M	Reduced & SU	Similar & SU
Aesthetics		X				
Air Quality					X	
Biological Resources			X			
Cultural Resources					X	X
Energy	X					
Greenhouse Gas Emissions	X					
Hazards & Hazardous Materials			X			
Hydrology & Water Quality	X					
Land Use & Planning	X					
Noise					X	
Population & Housing				X		
Public Services & Recreation	X					
Transportation				X		
Utilities & Service Systems				X		

LTS = Less than Significant

SU = Significant & Unavoidable

LTS/M = Less Than Significant with Mitigation Incorporated

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As shown in the summary table, impacts of the No Project Alternative would be similar for biological resources, cultural resources, hazards and hazardous materials, and land use and planning. Impacts to aesthetics, air quality, energy, greenhouse gas emissions, hydrology and water quality, noise, and public services and recreation would be less than the proposed project. Impacts to population and housing, transportation, and utilities and service systems would be greater than the proposed project. The proposed project would consolidate existing land use designations and create a more predictable review process and development outcome. The proposed Specific Plan also facilitates development of housing, and complete streets that would reduce air quality and greenhouse emissions by providing homes near jobs, the university, shopping, and entertainment. Further, the proposed project provides for a more defined mixed-use building design and land use mix than the existing Mixed Use Zone District (Article 40.15 Mixed Use District) by illustrating the intended building styles and type, as well as explaining the connectivity between land uses within the downtown. The proposed Specific Plan is more detailed than the existing Core Area Specific Plan (CASP) furthering the project goal for a more compact and sustainable community. Under this Alternative, the CASP would remain in effect which provides policy guidance for development in the downtown but does not provide the regulatory framework of the form-based code that is part of the proposed project. This Alternative would generally meet the project objectives, but to a lesser extent and not as effectively as the proposed project.

5.3.2 REDUCED HEIGHT ALTERNATIVE

During the scoping meeting, and preparation of the specific Plan, comments were made concerning the 5- and 7-story buildings allowed along G Street and the railroad tracks, as well as south of 4th Street and the potential for visual impacts and the reflection of noise into the adjacent neighborhood east of the project area. Section 4.1 Aesthetics concludes that Impact AES-2 would be significant and unavoidable because of impacts to existing historic structures, and Impact AES-4 requires mitigation to address light and glare impacts. Section 4.10 concludes that construction noise will be significant and unavoidable with mitigation imposed. This alternative was selected to reduce visual and construction noise impacts identified in the EIR.

With the exception of the proposed Neighborhood-Small zone district that has a 2-story limit, as shown in Figure 40.13.070 Downtown Code Zoning Map, the remaining districts all allow for 3 – 5 story development. While the current C-C zone district that comprises the bulk of the Specific Plan Area does not have a height limit, this Alternative would establish building heights throughout the Specific Plan Area to a maximum of 3 stories (35 feet), which is consistent with section 40.18.050 Commercial Mixed Use (CMU) District.

The Reduced Height Alternative assumes that there would be a reduction in height of 1 to 2 stories within the following areas:

- East N-M Transition Area
 - Proposed Project: up to 4 stories
 - Reduced Height Alternative: up to 3 stories
- North G Street Area

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- Proposed Project: up to 5 stories
 - Reduced Height Alternative: up to 4 stories
- Davis Community Church Site
 - Proposed Project: up to 4 stories
 - Reduced Height Alternative: up to 3 stories
- University Avenue/Rice Lane
 - Proposed Project: up to 3 stories
 - Reduced Height Alternative: up to 2 stories
- Expanded Core Height Area
 - Proposed Project: up to 7 stories
 - Reduced Height Alternative: up to 5 stories
- Davis Square
 - Proposed Project: all properties – up to 7 stories
 - Reduced Height Alternative: mix of up to 5 and 7 stories

Table 3-3 of the proposed Specific Plan shows that the heart of the Downtown and G Street represent a potential for 442,100 square feet of non-residential space, roughly 74 percent of the total of 600,000 square feet projected for the specific plan. This same area is planned for 681 additional housing units, roughly 68 percent of the 1,000 housing units envisioned by the specific plan. Building footprints under this Alternative would be similar to the proposed project. However, as retail and professional offices are likely to occupy the ground and second floor space, the reduction in building height reduces the potential for residential units in each building. Assuming the same number of housing units as the proposed project, a lower building height would spread the housing units throughout the specific plan area rather than grouping the majority of the units in higher buildings near transit.

5.3.2.1 AESTHETICS

Under this Alternative, a reduction in allowed building height would occur by 1 to 2 stories, compared to the proposed project. Reducing the scale of construction would reduce impacts to neighborhood character as well as adjacent buildings. Although the EIR notes that the shadows from the tall buildings stay within the right of way, it is possible that as buildings become wider to accommodate the demand within a lower overall height, that the gaps between buildings would gradually be closed leading to more shade and shadow in the public areas of the downtown. Nevertheless, allowed development in this Alternative would still be taller than existing conditions with potentially substantial differences in mass and scale compared to existing one- and two-story buildings, and therefore could impact historic buildings. Impacts under this Alternative would be less than the proposed project; however, the impacts of this Alternative would also be significant and unavoidable.

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5.3.2.2 AIR QUALITY

Air quality impacts are associated with vehicle trips and construction. The amount of construction is likely to be less than the proposed project as buildings under this Alternative would be shorter and fewer housing units would be constructed; the construction duration would also be shorter. This Alternative would reduce the number of housing units placed near transit. Ordinarily, impacts associated with personal vehicle and truck use would increase if population is more distributed because building heights limit the potential to place increased density near transit. Homes that are too far away from transit may encourage people to drive rather than to take alternative transportation. However, riding bicycles is very common in the City, and the combination of weather and topography encourage walking and cycling. Given the relatively short distances to transit, and the culture of the City, it is unlikely that personal vehicle use would increase substantially with this Alternative, as compared to the impacts of the proposed project. Impacts under this Alternative would be less than the proposed project; however, impacts would also be significant and unavoidable.

5.3.2.3 BIOLOGICAL RESOURCES

Under this Alternative, impacts to biological resources would be similar to the proposed project. Future development under this Alternative, as with the proposed project, would require mitigation measures to reduce impacts to nesting birds and roosting bats to less than significant. Future development under this Alternative, as with the proposed project, would be required to comply with local, state, and federal regulations to minimize impacts to potential sensitive natural communities. Impacts to biological resources would be less than significant with mitigation incorporated and would be the same as the proposed project.

5.3.2.4 CULTURAL RESOURCES

Future development under this Alternative and the proposed project could result in significant and unavoidable impacts on historic resources. Although not likely, due to the built-up nature of the Specific Plan Area, there is a chance that previously unknown archaeological resources may be unearthed during grading activities. The goals, policies, standards, and actions that pertain to the designation and preservation of archaeological resources as stated in the General Plan EIR would be enforced which would reduce impacts to less than significant. Additionally, compliance with California Health and Safety Code Section 7050.5(b) would reduce impacts to less than significant if human remains are discovered during construction activities.

As the number of homes and non-residential square feet under this Alternative would be the same as the proposed project, impacts to historic resources would be similar. As noted in aesthetics wider buildings have the potential to obstruct views of historic resources as setbacks/view space would decrease. The Draft EIR concludes that impacts to historic resources are significant and unavoidable. Impacts under this Alternative would be similar to the proposed project and would also be significant and unavoidable.

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5.3.2.5 ENERGY

Development intensity allowed under this Alternative would be the same as the proposed project despite reduction in building height in some portions of the Specific Plan Area; therefore, energy use would be the same as the proposed project. Impacts would be less than significant like the proposed project.

5.3.2.6 GREENHOUSE GAS EMISSIONS

Development intensity allowed under this Alternative would be the same as the proposed project; therefore, greenhouse gas emission impacts would be the same as the proposed project. Impacts would be significant and unavoidable like the proposed project.

5.3.2.7 HAZARDS AND HAZARDOUS MATERIALS

Under both this Alternative and the proposed project, future development in the Specific Plan Area would be required to comply with existing federal, state, and local regulations governing use, storage, transport, and disposal of hazardous materials and wastes. The cleanup sites listed as open in the Specific Plan Area could create a significant hazard to the public or environment; therefore, the implementation of mitigation measures would be required to reduce impacts to less than significant. Impacts under this Alternative would be similar to the proposed project and would be less than significant with mitigation incorporated.

5.3.2.8 HYDROLOGY AND WATER QUALITY

This Alternative would have similar hydrology and water quality impacts as the proposed project. Future project-specific Water Quality Management Plans would be prepared which would identify best management practices for the future project. Moreover, Low Impact Development and water quality treatment solutions prescribed in project-specific Water Quality Management Plans would be designed to support or enhance the regional best management practices and efforts implemented by the City. Future projects would be required to comply with federal, state, and local regulations, such as the NPDES and SWPPP. Therefore, impacts would be similar and less than significant.

5.3.2.9 LAND USE AND PLANNING

Under this Alternative, the Downtown Davis Specific Plan and Associated Form-Based Code would be adopted, and this Alternative, as with the proposed project, would result in amendments to the General Plan, Davis Municipal Code, and replacement of the Core Area Specific Plan. However, this Alternative would result in a reduction in building height compared to the proposed project. Impacts of the proposed project and this Alternative would be similar and would remain less than significant.

5.3.2.10 NOISE

Though building height would be less in certain portions of the Specific Plan Area under this Alternative, it is assumed the same type of uses would be developed. Thus, this Alternative would have the same potential for noise-generating uses to be developed and construction noise would be similar to that of the

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proposed project. As noted above, development intensity allowed under this Alternative would be the same as the proposed project. Consequently, construction noise impacts of this Alternative would be similar to those of the proposed project and would also be significant and unavoidable.

5.3.2.11 POPULATION AND HOUSING

Like the proposed project, this Alternative would not directly displace housing or people, as there would be a net increase in housing units. Under the proposed project and this Alternative, impacts to population and housing would be less than significant. This Alternative also would achieve the beneficial impacts of the proposed project related to housing and employment, such as the increase in jobs and housing units. Impacts would be similar and less than significant.

5.3.2.12 PUBLIC SERVICES AND RECREATION

This Alternative would result in an increase in population and employment the same as the proposed project. Impacts to public services, including fire, police, school, library, and parks and recreational services would be the same as the proposed project. Impacts would be less than significant.

5.3.2.13 TRANSPORTATION

Under this Alternative, the proposed project's extensive improvements to on- and off-street bicycle, pedestrian, and transit facilities would be implemented. The increase in population under this Alternative would be the same as the proposed project, and as with the proposed project, this Alternative would not exceed the VMT thresholds. Impacts under this Alternative would be similar to the proposed project and would be less than significant.

5.3.2.14 UTILITIES AND SERVICE SYSTEMS

This Alternative would result in an increase in population and employment beyond existing conditions similar, but to a lesser degree, as the proposed project; therefore, impacts to the City's infrastructure systems would be the same under this Alternative and would be less than significant.

5.3.2.15 CONCLUSION

TABLE 5-2 SUMMARY OF REDUCED HEIGHT ALTERNATIVE IMPACTS COMPARED TO PROPOSED PROJECT

Environmental Topic	Similar & LTS	Reduced & SU	Similar & SU
Aesthetics		X	
Air Quality		X	
Biological Resources	X		
Cultural Resources			X
Energy	X		
Greenhouse Gas Emissions			X
Hazards & Hazardous Materials	X		
Hydrology & Water Quality	X		

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TABLE 5-2 SUMMARY OF REDUCED HEIGHT ALTERNATIVE IMPACTS COMPARED TO PROPOSED PROJECT

Environmental Topic	Similar & LTS	Reduced & SU	Similar & SU
Land Use & Planning	X		
Noise			X
Population & Housing	X		
Public Services & Recreation	X		
Transportation	X		
Utilities & Service Systems	X		
LTS = Less Than Significant SU = Significant and Unavoidable			

Impacts of the Reduced Height Alternative to aesthetics and cultural resources would be less than the proposed project as the reduction in building height from what is envisioned in the Specific Plan would not likely be visible from historic resources. However, as reuse and adaptation of historic buildings would still be possible, the potential for impact remains significant and unavoidable. Impacts would be similar to those of the proposed project for air quality, biological resources, energy, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, population and housing, public services and recreation, and utilities and service systems and transportation. The Reduced Height Alternative would meet the project objectives except that the proposed Specific Plan and Associated Form-Based Code that creates a clear building and place hierarchy in the downtown would be lessened as more lower buildings would be needed to meet the development potential. This would not be consistent with the project objective to consolidate existing land use designations and create a more predictable review process and development outcome. Lower buildings would also increase dispersal of housing throughout the proposed Specific Plan area but would not necessarily increase private vehicle use to a significant degree.

5.3.3 TALLER BUILDINGS – SAME LAND USE DISTRIBUTION

Under this Alternative, seven story or higher buildings would be permitted along the railroad and southern edge of the Specific Plan Area. The intent of this Alternative is to consolidate the large buildings while keeping the overall square footage of non-residential development and number of residential units the same as the proposed project. Taller buildings could accommodate more housing at fewer construction sites, thereby reducing the need to redevelop existing buildings or vacant parcels in the Specific Plan Area. Assuming the same development potential as shown in Table 3-3 of this EIR, taller buildings could result in fewer construction sites. Placement of the buildings near transit would encourage ridership and provide customers for the businesses in the downtown.

5.3.3.1 AESTHETICS

The C-C, Central Commercial zone district that covers much of the Specific Plan Area does not have a building height limitation (Davis Municipal Code § 40.14.070). As such, under existing conditions, buildings of any height or number of stories could be constructed. This Alternative would allow at least seven story buildings and could accommodate taller structures. This would change the appearance of the Specific Plan

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Area, which currently has 2 – 4 story buildings, with most being only 1-2 stories. Shadows from the taller buildings would likely extend beyond the road right of way for the buildings which could affect adjacent properties that are not part of the Specific Plan. However, taller buildings would accommodate more residential units which would limit the need to develop other buildings in Specific Plan Area. Impacts would be similar to the proposed project and significant and unavoidable.

5.3.3.2 AIR QUALITY

The air quality impacts associated with construction would be similar to that of the proposed project. While construction periods may increase for taller buildings, assuming the same non-residential square footage and residential units as the proposed project, fewer construction sites would be needed. Operational characteristics would be like those of the proposed project though, as energy use increases with taller buildings, building efficiency may decrease with taller buildings. Therefore, impacts would be greater than the proposed project but would remain significant and unavoidable.

5.3.3.3 BIOLOGICAL RESOURCES

The proposed project could reduce the number of construction sites which would reduce the number of tall buildings that could impact biological resources. While the taller buildings could impact migratory birds, having fewer buildings could reduce the overall impacts when compared to the proposed project. Future development under this Alternative, as with the proposed project, would require mitigation measures such as BIO-2 that requires preconstruction surveys before tree trimming or removal, and compliance with the Yolo HCP/NCCP that would reduce impacts to nesting birds and roosting bats to less than significant. Future development under this Alternative, as with the proposed project, would be required to comply with local, state, and federal regulations to minimize impacts to potential sensitive natural communities. Overall, because fewer sites would be developed when compared to the proposed projects, impacts to biological resources would be less than the proposed project and would be less than the significant with mitigation measures.

5.3.3.4 CULTURAL RESOURCES

Taller buildings would reduce the need to spread development throughout the Specific Plan Area which would decrease the potential for new development to affect cultural resources, including archaeological resources. Taller buildings would be visible from some of the Specific Plan Areas which could affect the character of the historic neighborhood. As the site(s) for the taller buildings tend to be on larger parcels, fewer of the smaller historic buildings would likely be affected. Overall, taller buildings would reduce the impact of development in the Specific Plan Area on cultural resources, but impacts to historic resources would be significant and unavoidable.

5.3.3.5 ENERGY

Development under this Alternative would result in taller buildings which would increase construction duration at a given development site. However, assuming the same non-residential square footage and residential units as the proposed project, fewer construction sites would be needed overall. Operational characteristics would be like those of the proposed project. Therefore, impacts would be similar to the proposed project and less than significant.

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5.3.3.6 GREENHOUSE GAS EMISSIONS

Development under this Alternative would result in taller buildings compared to the proposed project. However, assuming the same non-residential square footage and residential units as the proposed project, fewer construction sites would be needed. Operational characteristics would be like those of the proposed project, though energy use may be greater with buildings taller than 10 floors. However, like the proposed project all new development will comply with the building code as adopted by the City which includes energy conservation requirements for both the building and landscaping. Therefore, impacts would be anticipated to be similar to the proposed project and significant and unavoidable.

5.3.3.7 HAZARDS AND HAZARDOUS MATERIALS

Under both this Alternative and the proposed project, future development would be required to comply with existing federal, state, and local regulations governing use, storage, transport, and disposal of hazardous materials and wastes. As this Alternative would propose taller buildings, fewer construction sites would be needed, and therefore, compared to the proposed project, impacts as a result of cleanup sites listed as open would create a lesser impact to the public or environment. However, the impact would be site dependent. As listed in Section 4.6 Hazards and Hazardous Materials, Table 4-6.1, there are 11 within the Specific Plan area and 8 more nearby. Construction on these sites would be governed by federal, state, and local regulations. Nonetheless, implementation of mitigation measures would be required to reduce impacts to less than significant. Impacts under this Alternative would be the same as the proposed project and less than significant with mitigation.

5.3.3.8 HYDROLOGY AND WATER QUALITY

Future project-specific Water Quality Management Plans would be prepared which would identify best management practices for the future project. Moreover, Low Impact Development and water quality treatment solutions prescribed in project-specific Water Quality Management Plans would be designed to support or enhance the regional best management practices and efforts implemented by the City. Future projects would be required to comply with federal, state, and local regulations, such as the NPDES and SWPPP. Therefore, impacts would be similar and less than significant.

5.3.3.9 LAND USE AND PLANNING

Under this Alternative, the Downtown Davis Specific Plan and Associated Form-Based Code would be adopted, and this Alternative, as with the proposed project, would result in amendments to the General Plan, Davis Municipal Code, and replacement of the Core Area Specific Plan. However, this Alternative would result in taller buildings, and therefore, fewer construction sites. Impacts under this Alternative would be similar and less than significant.

5.3.3.10 NOISE

Construction of taller buildings would take longer, but as there would be fewer buildings overall, construction noise would affect fewer properties in the Specific Plan Area. Operational noise would be less than the proposed project as residents would be concentrated in fewer buildings rather than more distributed throughout the Specific Plan Area. Impacts would be less than the proposed project and significant and unavoidable.

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5.3.3.11 POPULATION AND HOUSING

As with the proposed project, this Alternative would not directly displace housing or people, as there would be a net increase in housing units compared to existing conditions. Under the proposed project and this Alternative, impacts to population and housing would be less than significant. This Alternative would also achieve the beneficial impacts of the proposed project related to housing and employment, such as the increase in jobs and housing units. Impacts would be similar and less than significant.

5.3.3.12 PUBLIC SERVICES AND RECREATION

This Alternative would result in an increase in population and employment, as with the proposed project. Impacts to public services would be the same as the proposed project. Impacts would be less than significant.

5.3.3.13 TRANSPORTATION

Under this Alternative, the proposed project's extensive improvements to on- and off-street bicycle, pedestrian, and transit facilities would be implemented. The increase in population under this Alternative would be the same as the proposed project, and as with the proposed project, this Alternative would not exceed VMT thresholds. Impacts under this Alternative would be similar to the proposed project and less than significant.

5.3.3.14 UTILITIES AND SERVICE SYSTEMS

This Alternative would result in an increase in population and employment, as with the proposed project. Therefore, impacts to the City's infrastructure systems would be the same under this Alternative and impacts would be less than significant.

5.3.3.15 CONCLUSION

TABLE 5-3 SUMMARY OF TALLER BUILDINGS – SAME LAND USE DISTRIBUTION ALTERNATIVE IMPACTS COMPARED TO PROPOSED PROJECT

Environmental Topic	Similar & LTS	Reduced & LTS/M	Reduced & SU	Similar & SU	Greater & SU
Aesthetics				X	
Air Quality					X
Biological Resources		X			
Cultural Resources			X		
Energy	X				
Greenhouse Gas Emissions				X	
Hazards & Hazardous Materials		X			
Hydrology & Water Quality	X				
Land Use & Planning	X				
Noise			X		
Population & Housing	X				

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TABLE 5-3 SUMMARY OF TALLER BUILDINGS – SAME LAND USE DISTRIBUTION ALTERNATIVE IMPACTS COMPARED TO PROPOSED PROJECT

Environmental Topic	Similar & LTS	Reduced & LTS/M	Reduced & SU	Similar & SU	Greater & SU
Public Services & Recreation	X				
Transportation	X				
Utilities & Service Systems	X				

LTS = Less Than Significant

LTS/M = Less Than Significant with Mitigation Incorporation

SU = Significant and Unavoidable

Impacts of this Alternative to air quality, energy, and greenhouse gas emissions would be greater and less than significant; hydrology and water quality, land use and planning, population and housing, public services and recreation, transportation, and utilities and service systems would be similar and less than significant; biological resources and hazards and hazardous materials would be reduced and less than significant with mitigation; and impacts to aesthetics, cultural resources, and noise would be reduced and significant and unavoidable. This Alternative would meet the project objectives of consolidating land uses and creating a hierarchy of building types. This Alternative would also encourage a more compact urban form which would increase the potential for ridership on public transit, and add more residents near jobs, schools, and entertainment. Taller buildings would also reduce the need to develop historic buildings for housing, although the potential for affecting these resources would remain. Assuming the same development potential as shown in Table 3-3 of this EIR, taller buildings could result in fewer construction sites.

5.3.4 LARGER SPECIFIC PLAN AREA

This Alternative would extend the proposed Specific Plan Area to the north to include the City Hall property, and the area between East 8th, C Street, 5th Street and F Street, ‘squaring off’ the proposed Specific Plan area, and east along 3rd Street near the Amtrak Station. The intent would be to provide a larger geographic area to contain the development anticipated in the Specific Plan. This Alternative should also reduce the need for tall buildings as there would be more land to build on. While it is also possible that more potentially historic buildings would be affected, there may also be more of an opportunity to avoid historic structures as there would be more parcels that could be developed.

5.3.4.1 AESTHETICS

By expanding the development area from the proposed Specific Plan boundaries there is the potential for creating intensification of commercial and office land uses into surrounding residential neighborhoods rather than the compact community which is an objective of the project. While additional properties to choose from for development purposes might avoid some historic structures, there is also the potential for impacting historic structures or resources that are presently unknown. Given the age of the surrounding area it is likely that one or more of the existing structures would qualify as a historic resource. Also, the potential for random placement of new buildings in an existing neighborhood could negatively impact neighborhood character. The streets in the expansion area considered in this Alternative are tree-

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lined and it is possible that one or more of the trees would be removed to accommodate access, parking, and construction. While trees could be replanted, it is likely that new construction would need additional parking and driveways which would reduce the area available for replanting. This would change the character of the area and likely result in more impact than the proposed project. Impacts would be significant and unavoidable like those of the proposed project.

5.3.4.2 AIR QUALITY

The amount of construction in this Alternative is likely to be similar to the proposed project although development would be more distributed than currently envisioned by the proposed project. It is possible that construction duration may increase as more individual sites would need to be improved, however as this Alternative assumes a similar amount of residential and non-residential development, the construction impacts are considered similar to those of the proposed project.

Ordinarily, impacts associated with personal vehicle and truck use would increase if population is more distributed. Homes that are too far away from transit encourage people to drive rather than to take Alternative transportation. However, in the City of Davis, where riding bicycles is very common and the combination of weather and topography encourage walking and cycling. Given the relatively short distances to transit, and the culture of the City, it is unlikely that personal vehicle use would substantially increase with this Alternative. Impacts of this Alternative would be similar to the proposed project but remain significant and unavoidable.

5.3.4.3 BIOLOGICAL RESOURCES

Future development under this Alternative, as with the proposed project, would require mitigation measures to reduce impacts to nesting birds and roosting bats to less than significant. As the Specific Plan Area under this Alternative would be larger than the proposed project, impacts to nesting birds and roosting bats could be greater as more of these species are likely to be impacted. Additionally, more trees would have to be removed under this Alternative to accommodate the larger project area boundaries. Future development under this Alternative, as with the proposed project, would be required to comply with local, state, and federal regulations to minimize impacts to potential sensitive natural communities. Impacts to biological resources would be less than significant with mitigation incorporated and greater than the proposed project.

5.3.4.4 CULTURAL RESOURCES

The area around the Specific Plan Area is fully developed with homes, many of which may qualify as historic structures. While more housing units could be added to the area, it seems unlikely that new homes or businesses could be added without removal or substantial change to an existing historic structure. While there are more modern buildings that could be repurposed or replaced consistent with the proposed project, it is more likely that the existing historic structure(s) would be removed. It is also possible that several adjacent structures would need to be removed and properties combined to accommodate larger buildings. This would change both the historic context of this neighborhood as well as the neighborhood character. Impacts would be greater compared to the proposed project and significant and unavoidable.

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5.3.4.5 ENERGY

Although this Alternative would result in a larger Specific Plan Area, development intensity allowed under this Alternative would be the same as the proposed project. Therefore, energy use would be similar to the proposed project and impacts would be less than significant.

5.3.4.6 GREENHOUSE GAS EMISSIONS

Although this Alternative would result in a larger Specific Plan Area, overall development intensity allowed under this Alternative would be the same as the proposed project. While construction periods may increase for taller buildings, assuming the same non-residential square footage and residential units as the proposed project, fewer construction sites would be needed reducing construction times and therefore result in lower GHG. Operational characteristics would be like those of the proposed project though taller buildings with more units could place more people near transit increasing the potential for ridership and reducing VMT. Overall the combination of taller buildings but on fewer sites and more residents closer to transit would result in greenhouse gas emissions similar to the proposed project. However impacts would remain significant and unavoidable.

5.3.4.7 HAZARDS AND HAZARDOUS MATERIALS

Under both this Alternative and the proposed project, future development in the Specific Plan Area would be required to comply with existing federal, state, and local regulations governing use, storage, transport, and disposal of hazardous materials and wastes. As listed in Section 4.6 Hazards and Hazardous Materials, Table 4-6.1, there are 11 within the Specific Plan area and 8 more within 1,000 feet or less of the area. As all cleanup sites listed in Table 4-6.1 would be required to follow the same federal, state, and local regulations if development is proposed it would be similar to the proposed project and less than significant with mitigation incorporated.

5.3.4.8 HYDROLOGY AND WATER QUALITY

Future project-specific Water Quality Management Plans would be prepared which would identify best management practices for the future project. Moreover, Low Impact Development and water quality treatment solutions prescribed in project-specific Water Quality Management Plans would be designed to support or enhance the regional best management practices and efforts implemented by the City. Future projects would be required to comply with federal, state, and local regulations, such as the NPDES and SWPPP. Impacts would be similar and less than significant.

5.3.4.9 LAND USE AND PLANNING

Under this Alternative, the Downtown Davis Specific Plan and Associated Form-Based Code would be adopted, and this Alternative as with the proposed project would result in amendments to the General Plan, Davis Municipal Code, and the replacement of the Core Area Specific Plan. However, this Alternative would result in a larger Specific Plan Area compared to the proposed project and would allow more non-residential elements of the proposed project into existing lower intensity residential neighborhoods. Impacts of this alternative would be greater than the proposed project and less than significant.

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5.3.4.10 NOISE

As more individual properties could be needed to redevelop to accommodate this Alternative, it is reasonable to assume that the construction period could be longer. It is also reasonable to assume that more individual construction sites would need more staging areas that might need to be offsite to accommodate construction. This would increase noise intrusion into existing homes and businesses. Because of this the construction noise impacts are considered greater than those of the proposed project. Operational noise is considered like the proposed project as the amount of non-residential and residential units are the same. Impacts would be greater than the proposed project and significant and avoidable.

5.3.4.11 POPULATION AND HOUSING

Like the proposed project, this Alternative would not directly displace housing or people, as there would be a net increase in housing units compared to existing conditions. Under the proposed project and this Alternative, impacts to population and housing would be less than significant. This Alternative would also achieve the beneficial impacts of the proposed project related to housing and employment, such as the increase in jobs and housing units. Impacts would be similar and less than significant.

5.3.4.12 PUBLIC SERVICES AND RECREATION

This Alternative would result in an increase in population and employment as with the proposed project. Impacts to public services would be similar as the proposed project and impacts would be less than significant.

5.3.4.13 TRANSPORTATION

Under this Alternative, the proposed project's extensive improvements to on- and off-street bicycle, pedestrian, and transit facilities would be implemented. The increase in population under this Alternative would be the same as the proposed project, and as with the proposed project, this Alternative would not exceed the VMT thresholds. Impacts under this Alternative would be similar and less than significant.

5.3.4.14 UTILITIES AND SERVICE SYSTEMS

This Alternative would result in an increase in population and employment the same as the proposed project; therefore, impacts to the City's infrastructure systems would be the same under this Alternative and would be less than significant.

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5.3.4.15 CONCLUSION

TABLE 5-4 SUMMARY OF LARGER SPECIFIC PLAN AREA ALTERNATIVE IMPACTS COMPARED TO PROPOSED PROJECT

Environmental Topic	Similar & LTS	Greater & LTS	Similar & LTS/M	Greater & LTS/M	Similar & SU	Greater & SU
Aesthetics						X
Air Quality					X	
Biological Resources				X		
Cultural Resources						X
Energy	X					
Greenhouse Gas Emissions					X	
Hazards & Hazardous Materials			X			
Hydrology & Water Quality	X					
Land Use & Planning		X				
Noise						X
Population & Housing	X					
Public Services & Recreation	X					
Transportation	X					
Utilities & Service Systems	X					

LTS = Less Than Significant

LTS/M = Less Than Significant with Mitigation Incorporated

SU = Significant and Unavoidable

Impacts of the Larger Specific Plan Area to aesthetics, cultural resources, and noise would be greater than the proposed project and would remain significant and unavoidable. Air quality will have a similar impact to the proposed project but will remain significant and unavoidable. While a larger area has the potential to impact more biological resources than the proposed project, the overall impact would likely remain less than significant with mitigation incorporated. Similarly, hazards and hazardous materials would remain less than significant with mitigation incorporated, and energy, greenhouse gas emissions, hydrology and water quality, population and housing, public services and recreation, transportation, and utilities and service systems would be similar to the proposed project and less than significant. This alternative would have greater impacts to land use and planning but would remain less than significant. Overall, the Larger Specific Plan Alternative would meet most of the project objectives, however spreading the development over a wider area would not concentrate land uses or create a clear hierarchy in the downtown's built form.

5.3.5 MORE RESIDENTIAL (NO NEW COMMERCIAL)

This Alternative would eliminate the new commercial component of the plan and only add residential units to the Specific Plan Area. This Alternative would eliminate traffic associated with the new non-residential development reducing air quality, greenhouse gas, and noise. Rather than constructing the 600,000 square feet of non-residential development proposed with the project, the same square footage would be used for apartments resulting in approximately 800 units at an average apartment size of 750 square feet. This keeps the overall construction footprint similar to the proposed project but changes the

5. ALTERNATIVES TO THE PROPOSED PROJECT

land use configuration and increases the potential for new residents in the Specific Plan Area. This Alternative does not prohibit or discourage commercial development consistent with existing zoning in the Specific Plan area, it would simply not include new commercial uses as part of the proposed project.

5.3.5.1 AESTHETICS

As this Alternative would not alter the existing building heights in the specific plan area, tall buildings could be developed. The potential of more housing in the Specific Plan area would likely increase the number of properties that would be redeveloped as part of the proposed project. As existing commercial retail space is favored on the ground floor, it is likely that housing units would be above the retail or retail/office floors. Housing units could either be within a few tall buildings as envisioned by the proposed Specific Plan, or spread throughout the area in mid-rise type buildings. Overall, this Alternative would likely result in shorter buildings than envisioned by the proposed project. While shorter buildings would reduce the visibility of the new buildings from outside of the Specific Plan Area, it would increase the number of buildings or parcels affected by the proposed project. This would expand the construction impact beyond core area anticipated with the proposed project and could result in changes to the existing street character as taller and wider buildings replace the existing lower structures that currently exist.

The shorter overall building heights would reduce the potential for shadows to impact adjacent land uses. While the EIR notes that the shadows from the tall buildings stay within the right of way, it is possible that as buildings become wider to accommodate the demand within a lower overall height, that the gaps between buildings would gradually be closed leading to more shade and shadow in the public areas of the downtown. Impacts would be greater than the proposed project and significant and unavoidable.

5.3.5.2 AIR QUALITY

Air quality impacts are associated with assumed vehicle trips and construction. The amount of construction is likely to be similar to the proposed project although more distributed throughout the Specific Plan Area as vacant buildings could be repurposed into residential units although with fewer units per building than new construction. It is possible that overall construction duration may increase as more individual sites would need to be improved.

Without an increase in non-residential development, this Alternative would add potential employees and customers to the existing downtown. This has the potential to increase customers at the current businesses, provide a convenient employee base, and possibly create enough demand to either increase the existing commercial development, or provide opportunity for new businesses where allowed by the existing code. With more employees and customers supporting existing commercial uses within the proposed Specific Plan area, the need for personal automobile use should decrease resulting in less air quality impact than the proposed project. Impacts would be less than the proposed project and less than significant.

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5.3.5.3 BIOLOGICAL RESOURCES

Under this Alternative, impacts to biological resources would be similar to the proposed project. Future development under this Alternative, as with the proposed project, would require mitigation measures to reduce impacts to nesting birds and roosting bats to less than significant. Future development under this Alternative, as with the proposed project, would be required to comply with local, state, and federal regulations to minimize impacts to potential sensitive natural communities. Impacts to biological resources would be similar and less than significant with mitigation.

5.3.5.4 CULTURAL RESOURCES

Adding residential units to existing historic buildings may result in more opportunity for adaptive reuse than either mixed use or commercial development because permits for remodel are easier to obtain from the City than making the findings for demolition as shown in Title 40.23.130 of the Davis Municipal Code. Repair and maintenance that do not change the exterior appearance of the structure are exempt from the Historical Resources Management article of the Davis Municipal Code, and renovation to add housing units that also did not change the exterior appearance of the building(s) could also be considered under this provision of the code. This could enable more of the existing historic structures to remain, or to be adapted to accommodate more housing units. This assumes that development could occur with existing building owners converting second floor, or the rear of the existing structure to allow a few units to be built. As the street frontage of the building(s) could stay intact, or similar in terms of height and setback, there is an opportunity for impacts to street character to be less than the proposed project. The Draft EIR concludes that impacts to historic resources are significant and unavoidable. Because this Alternative has the potential to affect fewer of the historic resources the impacts would be less than those of the proposed project however the overall impact would remain significant and unavoidable.

5.3.5.5 ENERGY

Energy use under this Alternative would be reduced compared to the proposed project as traffic associated with non-residential uses would not occur. The overall construction footprint would be similar to the proposed project. Impacts would be reduced and less than significant.

5.3.5.6 GREENHOUSE GAS EMISSIONS

Greenhouse gas emissions impacts under this Alternative would be reduced compared to the proposed project as traffic associated with non-residential uses would be eliminated. The overall construction footprint would be similar to the proposed project. Impacts would be reduced and less than significant.

5.3.5.7 HAZARDS AND HAZARDOUS MATERIALS

Under both this Alternative and the proposed project, future development in the Specific Plan Area would be required to comply with existing federal, state, and local regulations governing use, storage, transport, and disposal of hazardous materials and wastes. The cleanup sites listed as open in the Specific Plan Area could create a significant hazard to the public or environment; therefore, the implementation of mitigation measures would be required to reduce impacts to less than significant. Impacts under this

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Alternative would be similar to the proposed project and would be less than significant with mitigation incorporated.

5.3.5.8 HYDROLOGY AND WATER QUALITY

This Alternative would have similar hydrology and water quality impacts as the proposed project. Future project-specific Water Quality Management Plans would be prepared which would identify best management practices for the future project. Moreover, Low Impact Development and water quality treatment solutions prescribed in project-specific Water Quality Management Plans would be designed to support or enhance the regional best management practices and efforts implemented by the City. Future projects would be required to comply with federal, state, and local regulations, such as the NPDES and SWPPP. Therefore, impacts would be similar and less than significant.

5.3.5.9 LAND USE AND PLANNING

Under this Alternative, the Downtown Davis Specific Plan and Associated Form-Based Code would be adopted, and this Alternative, as with the proposed project, would result in amendments to the General Plan, Davis Municipal Code, and replacement of the Core Area Specific Plan. However, this Alternative would eliminate the non-residential uses of the proposed project. Impacts would be similar and less than significant.

5.3.5.10 NOISE

As residential construction often takes longer than non-residential construction, it is reasonable to assume that the construction period(s) would be longer than those of the proposed project. It is also reasonable to assume the more individual construction sites would need more staging areas that might need to be offsite to accommodate construction. This would increase noise intrusion into existing homes and businesses. Therefore, construction noise impacts are considered greater than those of the proposed project. Operational noise is considered like the proposed project as the amount of non-residential and residential units are the same. Impacts would be greater and significant and unavoidable.

5.3.5.11 POPULATION AND HOUSING

Like the proposed project, this Alternative would not directly displace housing or people, as there would be a net increase in housing units. Under the proposed project and this Alternative, impacts to population and housing would be less than significant. This Alternative would achieve the beneficial impacts of the proposed project related to housing but not employment. Impacts would be similar and less than significant.

5.3.5.12 PUBLIC SERVICES AND RECREATION

This Alternative would result in an increase in population compared to the proposed project which would increase demand for public services. Impacts would be greater than the proposed project and less than significant.

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5.3.5.13 TRANSPORTATION

This Alternative increases the number of housing units and does not increase non-residential development. While this has the potential for employees and customers to live within the Specific Plan area there is no requirement to do so, and it is possible that some new residents may work outside of the proposed project site and may need to commute. However, if it is reasonable to assume that most daily trips associated with living in the Specific Plan area could be managed by walking or biking, then the commute trip would be the primary reason to leave the area. Although this Alternative does not have an increase in commercial development, it is reasonable to assume that the existing commercial and professional office uses in the Specific Plan area provide an opportunity for the new residents to walk and bike for goods and services. This is consistent with the proposed project objective to encourage residents to shop and work locally and would likely result in VMT generation similar to the proposed project. Impacts would be less than significant.

5.3.5.14 UTILITIES AND SERVICE SYSTEMS

This Alternative would result in an increase in population compared to the proposed project and eliminate the proposed project's non-residential component. Overall, impacts to the City's infrastructure system would be less under this Alternative due to the reduction in demand from non-residential uses. Impacts would be less than significant.

5.3.5.15 CONCLUSION

TABLE 5-5 SUMMARY OF MORE RESIDENTIAL (NO NEW COMMERCIAL) ALTERNATIVE IMPACTS COMPARED TO PROPOSED PROJECT

Environmental Topic	Reduced & LTS	Similar & LTS	Greater & LTS	Similar & LTS/M	Reduced & SU	Greater & SU
Aesthetics						X
Air Quality	X					
Biological Resources				X		
Cultural Resources					X	
Energy	X					
Greenhouse Gas Emissions	X					
Hazards & Hazardous Materials				X		
Hydrology & Water Quality		X				
Land Use & Planning		X				
Noise						X
Population & Housing		X				
Public Services & Recreation			X			
Transportation		X				
Utilities & Service Systems		X				

LTS = Less Than Significant

LTS/M = Less Than Significant with Mitigation Incorporated

SU = Significant and Unavoidable

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Impacts of this Alternative to aesthetics and noise would be greater than the proposed project and remain significant and unavoidable. Public services and recreation would be greater than the proposed project, but would be less than significant. Biological resources, hazards and hazardous materials, and utilities and service systems would be similar to the proposed project and would be less than significant with mitigation. Hydrology and water quality, land use and planning, population and housing, and transportation would be similar and less than significant. While the impacts to cultural resources would be less than the proposed project, because one or more resources might be affected, the impact remains significant and unavoidable. Impact to air quality, energy, and greenhouse gas emissions would be less than the proposed project and would have a similar determination as less than significant. The Downtown Davis Specific Plan and Associated Form-Based Code, which would create a clear hierarchy in the downtown's built form, transportation system, and open spaces, would consolidate existing land use designations and create a more predictable review process and development outcome, and would facilitate development of housing, complete streets, and mixed uses downtown for a more compact and sustainable community, would be implemented under this Alternative, but no new commercial uses would be proposed.

5.3.6 MORE COMMERCIAL (NO NEW RESIDENTIAL)

While Section 15092(c) of the CEQA Guidelines prohibit the reduction of housing units as mitigation if other feasible mitigation is available, in this case the proposed project is City initiated and seeks to add housing in areas of the City where it is currently either regulated through conditional use permit (C-C Zone District), or provided only as smaller single family and duplex development (C-I Zone District). This Alternative would reduce the number of housing units envisioned by the proposed Specific Plan and assumes that the additional square footage would be used for non-residential commercial and/or professional office space. As the ground floor is typically reserved for retail, the upper floors of a building would be assumed to be office space. Using the same 750 square foot per dwelling unit estimate as the More Residential Alternative, the proposed 1,000 units could be converted to an additional 750,000 square feet of non-residential development for a total of approximately 1.35 million square feet. For purposes of this Alternative the existing building heights provided by zoning in the Specific Plan area would remain intact allowing some buildings to exceed 3 stories.

5.3.6.1 AESTHETICS

As this Alternative would not alter the existing building heights in the specific plan area, tall buildings could be developed. However, it is likely that the need and cost to provide elevator access for retail buildings above 3 stories and 3,000 square feet, and the lack of additional housing, would keep many of the buildings at 3 stories or less within the Specific Plan area. Overall, this Alternative would result in shorter buildings than envisioned by the proposed project which would then increase the number of parcels that would need to be developed to accommodate the potential non-residential buildings. While shorter buildings would reduce the visibility of the new buildings from outside of the Specific Plan Area, it would increase the number of buildings or parcels affected by the proposed project. This would expand the construction impact beyond the core area anticipated with the proposed project and could result in changes to the existing street character as taller and wider buildings replace the existing lower structures that currently exist.

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The shorter overall building heights would reduce the potential for shadows to impact adjacent land uses. While the EIR notes that the shadows from the tall buildings stay within the right of way, it is possible that as buildings become wider to accommodate the demand within a lower overall height, that the gaps between buildings would gradually be closed leading to more shade and shadow in the public areas of the downtown. Impacts would be greater than the proposed project and remain significant and unavoidable.

5.3.6.2 AIR QUALITY

Air quality impacts are associated with assumed vehicle trips and construction. The amount of construction is likely to be similar to the proposed project although more distributed throughout the Specific Plan Area and a shorter duration than if the residential development was included. It is possible that overall construction duration may increase as more individual sites would need to be improved, however as this Alternative assumes no residential development, it is possible that the construction periods would be shorter than with residential construction.

With an increase in non-residential development and no additional housing, it is likely that more employees and customers would be required to commute to the Specific Plan Area. The mix of housing within the Specific Plan Area that could accommodate new employees, and will include customers, reduces the need for personal automobile use thereby reducing air quality impacts. Even though Davis has an enviable culture of bicycle use, with the distances involved in the City and the need for employees in the Specific Plan Area under this Alternative it is reasonable to assume that personal vehicle use would increase and therefore also air quality impacts. Impacts to air quality are considered greater than the proposed project and would be significant and unavoidable.

5.3.6.3 BIOLOGICAL RESOURCES

Under this Alternative, impacts to biological resources would be similar to the proposed project. Future development under this Alternative, as with the proposed project, would require mitigation measures to reduce impacts to nesting birds and roosting bats to less than significant. Future development under this Alternative, as with the proposed project, would be required to comply with local, state, and federal regulations to minimize impacts to potential sensitive natural communities. Impacts to biological resources would be similar and less than significant with mitigation incorporated.

5.3.6.4 CULTURAL RESOURCES

A greater distribution of construction throughout the Specific Plan Area increases the potential for impacting historic resources. Depending on the type of resource, new construction of shorter buildings housing only retail or professional office may seek to increase the development efficiency of the property making adaptive reuse of historic structures more difficult. This could lead to demolition of individual buildings to allow construction of single larger structures. It is also likely that several new buildings in an area would significantly impact the character of the street by changing from smaller buildings with view space (setbacks) on either side, to larger and taller buildings with minimal to zero view space. The Draft EIR concludes that impacts to historic resources are significant and unavoidable. Because this Alternative has the potential to affect more of the historic resources the impacts would be greater than those of the proposed project and would remain significant and unavoidable.

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5.3.6.5 ENERGY

The amount of construction is likely to be similar to the proposed project although more distributed throughout the Specific Plan Area and a shorter duration than if the residential development was included. It is possible that overall construction duration may increase as more individual sites would need to be improved, however as this Alternative assumes no residential development, it is possible that the construction periods would be shorter than with residential construction. With an increase in non-residential development and no additional housing, it is likely that more employees and customers would be required to commute to the Specific Plan Area. Impacts would be greater and less than significant.

5.3.6.6 GREENHOUSE GAS EMISSIONS

The amount of construction is likely to be similar to the proposed project although more distributed throughout the Specific Plan Area and a shorter duration than if the residential development was included. It is possible that overall construction duration may increase as more individual sites would need to be improved, however as this Alternative assumes no residential development, it is possible that the construction periods would be shorter than with residential construction. With an increase in non-residential development and no additional housing, it is likely that more employees and customers would be required to commute to the Specific Plan Area. While impacts would be greater than the proposed project, they would remain significant and unavoidable.

5.3.6.7 HAZARDS AND HAZARDOUS MATERIALS

Under both this Alternative and the proposed project, future development in the Specific Plan Area would be required to comply with existing federal, state, and local regulations governing use, storage, transport, and disposal of hazardous materials and wastes. The cleanup sites listed as open in the Specific Plan Area could create a significant hazard to the public or environment; therefore, the implementation of mitigation measures would be required to reduce impacts to less than significant. Impacts under this Alternative would be similar to the proposed project and would be less than significant with mitigation incorporated.

5.3.6.8 HYDROLOGY AND WATER QUALITY

This Alternative would have similar hydrology and water quality impacts as the proposed project. Future project-specific Water Quality Management Plans would be prepared which would identify best management practices for the future project. Moreover, Low Impact Development and water quality treatment solutions prescribed in project-specific Water Quality Management Plans would be designed to support or enhance the regional best management practices and efforts implemented by the City. Future projects would be required to comply with federal, state, and local regulations, such as the NPDES and SWPPP. Therefore, impacts would be similar and less than significant.

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5.3.6.9 LAND USE AND PLANNING

Under this Alternative, the Downtown Davis Specific Plan and associated Form-Based Code would be adopted, and this Alternative, as with the proposed project, would result in amendments to the General Plan, Davis Municipal Code, and replacement of the Core Area Specific Plan. However, this Alternative would eliminate the residential uses of the proposed project and would likely increase of private vehicle use by customers and employees for the Downtown. Impacts of the proposed project and this Alternative would be similar and less than significant.

5.3.6.10 NOISE

As more individual properties would need to be redeveloped to accommodate this Alternative, it is reasonable to assume that the number of construction sites would be greater than the proposed project. As non-residential construction is often faster than multiple family residential or mixed-use construction, it is reasonable to assume that the construction period(s) would be shorter than those of the proposed project. It is also reasonable to assume that more individual construction sites would need more staging areas than the proposed project to accommodate construction. This would increase noise intrusion into existing homes and businesses. While this may be offset by shorter construction timelines, the construction noise impacts are considered greater than those of the proposed project. Operational noise is considered like the proposed project. Overall, noise impacts with this Alternative would be greater than those of the proposed project but would remain significant and unavoidable.

5.3.6.11 POPULATION AND HOUSING

Like the proposed project, this Alternative would not directly displace housing or people, however, this Alternative would result in a net increase in non-residential square footage and a decrease in residential units compared to the proposed project. Under the proposed project and this Alternative, impacts to population and housing would be less than significant. This Alternative also would achieve the beneficial impacts of the proposed project related to employment, but not housing. Impacts would be similar and less than significant.

5.3.6.12 PUBLIC SERVICES AND RECREATION

This Alternative would result in an increase in employment, but not population, compared to the proposed project. While some police calls are related to shoplifting and fire calls for health and safety are related to customers, the most of these calls are related to housing. The lack of residential calls with this alternative would reduce overall public services calls and impacts would be less than the proposed project and less than significant.

5.3.6.13 TRANSPORTATION

As this Alternative increases non-residential square footage and does not increase the potential for housing, both employees and customers would need to travel to the Specific Plan Area. While some of the adjacent neighborhoods could provide both employees and customers within walking or biking distance, it is likely that many employees and customers will need to drive or take transit. In addition to a probable

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increase in transportation impacts, it is likely that additional parking would be required within the Specific Plan Area. While parking is not necessarily a concern of CEQA, this Alternative may result in the need to build more parking garages or remove buildings to increase the number of surface parking lots. This could affect the character of the existing neighborhood and result in the demolition of historic resources.

A mix of housing and commercial development is essential to reducing VMT. This Alternative would likely increase vehicle use and therefore increase VMT. While the proposed project has a less than significant impact on VMT, this Alternative would result in more VMT than the proposed project, and possibly result in a significant impact.

5.3.6.14 UTILITIES AND SERVICE SYSTEMS

This Alternative would result in an increase in employment but not population compared to the proposed project; therefore, impacts to the City's infrastructure systems would likely be less than the proposed project as housing typically uses more water than retail and professional office space. Therefore, impacts to utilities and services systems with this Alternative would be less than the proposed project and also less than significant.

5.3.6.15 CONCLUSION

TABLE 5-6 SUMMARY OF MORE COMMERCIAL (NO NEW RESIDENTIAL) ALTERNATIVE IMPACTS COMPARED TO PROPOSED PROJECT

Environmental Topic	Reduced & LTS	Similar & LTS	Greater & LTS	Similar & LTS/M	Greater & SU
Aesthetics					X
Air Quality					X
Biological Resources				X	
Cultural Resources					X
Energy			X		
Greenhouse Gas Emissions					X
Hazards & Hazardous Materials				X	
Hydrology & Water Quality		X			
Land Use & Planning		X			
Noise					X
Population & Housing		X			
Public Services & Recreation	X				
Transportation					X
Utilities & Service Systems	X				

LTS = Less Than Significant

LTS/M = Less Than Significant with Mitigation Incorporated

SU = Significant and Unavoidable

Impacts of this Alternative to public services and recreation would be reduced from the proposed project and remain less than significant. Hydrology and water quality, land use and planning, and population and housing would be similar to the proposed project and less than significant. Also, biological resources and

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hazards and hazardous materials would be similar to the proposed project and would be less than significant with mitigation measures implemented. Aesthetics, cultural resources, and noise impacts would increase with this Alternative and would be significant and unavoidable. Air quality impacts may increase to significant and unavoidable because of the additional traffic associated with increased non-residential development. Similarly, this Alternative would result in more energy use, greenhouse gas emissions, and transportation impacts when compared to the proposed project. As homes often use more utilities than retail and office land uses, impacts to utilities and service systems would be less than the proposed project and less than significant. This Alternative does not meet most of the project objectives that emphasize a mix of land uses, increased housing, and a more walkable downtown. The Downtown Davis Specific Plan and Associated Form-Based Code, which would create a clear hierarchy in the downtown's built form, transportation system, and open spaces, would consolidate existing land use designations and create a more predictable review process and development outcome, and would facilitate development of housing, complete streets, and mixed uses downtown for a more compact and sustainable community, would be implemented under this Alternative, but no new residential uses would be proposed.

5.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires a lead agency to identify the “environmentally superior Alternative” to the proposed project. Because the No Project Alternative would result in an overall reduction in the level of impacts identified for the proposed project, the No Project Alternative has been identified as “environmentally superior” to the proposed project. However, in cases where the “No Project Alternative” is environmentally superior to the proposed project, the environmentally superior development Alternative must be identified. The proposed project would replace the existing Core Area Specific Plan with a more comprehensive vision of the downtown, and a clear regulatory process to enable future development. One of the objectives of the project is to enhance and support the existing downtown and add housing that could increase the pool of potential employees as well as customers. The proposed project allows for a modest increase in commercial development, but emphasizes adding housing over bringing in new commercial. As shown in Table 5-7, the No Project Alternative meets some of the project objectives but to a lesser extent than both the proposed project and the More Residential (No New Commercial) Alternative. Therefore, the No Project Alternative is not the environmentally superior alternative.

The More Residential (No New Commercial) Alternative would place more housing units in the Specific Plan area that would result in more potential employees and customers for the existing businesses. This would further the objectives of providing different housing types and encourage the use of vacant or underdeveloped existing commercial uses. More people in a compact urban form will also encourage walking or biking which is part of the culture of the City of Davis, and reduces air quality, VMT, and greenhouse gas impacts. As shown in Table 5-7, this Alternative meets most of the project objectives, and has reduced environmental impacts when compared to the proposed project. However, this alternative does not provide a comprehensive strategy of adding housing to the Downtown and allowing for a modest increase in commercial development. Nonetheless, the More Residential (No New Commercial) Alternative is considered environmentally superior.

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TABLE 5-7 ABILITY OF EACH ALTERNATIVE TO MEET THE PROJECT OBJECTIVES

Objective	No Project Alternative	Reduced Height Alternative	Taller Building Heights	Larger Specific Plan Area	More Residential (No New Commercial)	More Commercial (No New Residential)
Facilitate a carbon neutral, equitably accessible, water efficient, zero waste, resilient community by 2040.	Yes, but to a lesser extent	Yes	Yes, but to a less extent	Yes, but to a lesser extent	Yes	No
Create a compact, mixed-use community that expands residential development opportunities designed to take advantage of active modes of transportation and transit and supports existing commercial while also allowing for modest commercial expansion.	Yes, but to a lesser extent	Yes, but to a lesser extent	Yes	No	No	No
Establish a development hierarchy to promote non-vehicular travel and create a strong sense of place.	Yes, but to a lesser extent	Yes, but to a lesser extent	Yes	No	Yes	Yes, but to a lesser extent
Consolidate regulatory processes for consistency, predictability, and to provide a comprehensive plan for development, infrastructure, and streamlined environmental analysis.	No	Yes	Yes	Yes	Yes	Yes
Develop complete streets that improve access to transit and non-vehicular modes of transit, increase bicycle and pedestrian safety, and reduce dependence on vehicles and VMT.	Yes, but to a lesser extent	Yes	Yes, but to a lesser extent	Yes, but to a lesser extent	Yes	No
Encourage residents to use Downtown instead of driving across town or to nearby cities for jobs, experiences, dining, and shopping.	Yes, but to a lesser extent	Yes	Yes, but to a lesser extent	Yes, but to a less extent	Yes, but to a less extent	No
Provide a variety of housing options at all levels of affordability near opportunities, jobs, facilities, services, and destinations where most daily needs can be met without a car.	Yes, but to a lesser extent	Yes	Yes, but to a lesser extent	Yes, but to a lesser extent	Yes	No
Find creative ways to reuse vacant and underutilized retail and commercial space Downtown.	Yes, but to a lesser extent	Yes	Yes	Yes	Yes	Yes
Create a sense of place that balances new development with historic character.	Yes, but to a lesser extent	Yes	Yes, but to a lesser extent	Yes, but to a lesser extent	Yes	Yes
Create public spaces are green, active, inclusive, and support the health of the public and the environment.	Yes, but to a lesser extent	Yes	Yes	Yes	Yes	Yes

6. *CEQA Mandated Sections*

This Chapter provides an overview of the impacts of the proposed project based on the analyses presented in Chapters 4 through 5 of this Draft Environmental Impact Report (Draft EIR). The topics covered in this Chapter include growth inducement, unavoidable significant impacts, and significant, irreversible changes. A more detailed analysis of the effects the proposed project would have on the environment and proposed mitigation measures to minimize significant impacts are provided in Sections 4.1 through 4.14 of this Draft EIR.

6.1 IMPACTS FOUND NOT TO BE SIGNIFICANT

California Public Resources Code Section 21003 (f) states: “...it is the policy of the state that...[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical, and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment.” This policy is reflected in the California Environmental Quality Act (CEQA) Guidelines (Guidelines) Section 15126.2(a), which states that “[a]n EIR [environmental impact report] shall identify and focus on the significant environmental impacts of the proposed project” and Section 15143, which states that “[t]he EIR shall focus on the significant effects on the environment.” Guidelines Section 15128 requires that an EIR contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the Draft EIR.

Impacts to agriculture and forestry resources, geology and soils, tribal cultural resources, and wildfire were determined to be less than significant during scoping for the EIR. The following sections provide the thresholds of significance and a brief analysis supporting the determination of no impact or less than significant impacts. Threshold letters correspond to the lettering in Appendix G of the CEQA Guidelines.

6.1.1 AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board (CARB).

6. CEQA MANDATED SECTIONS

Would the project:

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

No Impact. The Specific Plan Area does not contain agricultural or farmland uses, nor are there agricultural or farm uses in its immediate vicinity. The Specific Plan Area is located in Downtown Davis and consists of the following zoning districts—P-D (Planned Development), C-C (Core Commercial), C-I (Core Area Infill), and M-U (Mixed Use). Additionally, according to the California Important Farmland Finder, the Specific Plan Area is mapped as Urban and Built-Up Land and is fully developed.¹ Therefore, the proposed project would not result in any impacts to agricultural land.

- b) **Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

No Impact. The existing zoning in the Specific Plan Area is Planned Development (P-D), Central Commercial (C-C), Core Area Infill (C-I), and Mixed Use (M-U), which allow for residential, commercial, and related uses. Accordingly, the proposed project would not conflict with agricultural zoning because the Specific Plan Area is not zoned for agricultural use. There also are not any Williamson Act contracts in effect in the area. Therefore, no impact would occur.

- c) **Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?**

No Impact. The proposed project would not conflict with existing zoning for forest land, timberland, or timberland production. Forest land is defined as “land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits (California PRC § 12220[g]). Timberland is defined as “land...which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees” (California PRC § 4526). The Specific Plan Area is zoned P-D, C-C, C-I, and M-U, and is fully developed with existing commercial, residential, and related urban uses and mapped as Urban and Built-Up Land. Therefore, the proposed project would not conflict with zoning for, or cause rezoning of, forest land or timberland.

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

No Impact. Vegetation in the Specific Plan Area is limited to street trees and ornamental landscaping. The Specific Plan Area has no forest uses, nor are there forest uses in its immediate vicinity. Additionally, the

¹ California Department of Conservation (CDC). 2016. California Important Farmland Finder. <https://maps.conservation.ca.gov/dlrp/ciff/>

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Specific Plan Area is mapped as Urban and Built-Up Land and is fully developed. Therefore, the proposed project would not result in the loss of forest land or conversion of forest land to non-forest use.

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

No Impact. Because the Specific Plan Area is located in the center of the City of Davis, is fully developed, and is surrounded by areas that are also fully developed, the proposed project and potential future development as a result of implementation of the proposed project would not result in the indirect conversion of farmland or agricultural land to nonagricultural or non-forest uses. Therefore, no impact would occur.

6.1.2 GEOLOGY AND SOILS

Would the project:

- 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.
 - ii. Strong seismic ground shaking?
 - iii. Seismic-related ground failure, including liquefaction?
 - iv. Landslides?

Pursuant to the December 2015 California Supreme Court ruling in *California Building Industry Association v. Bay Area Air Quality Management District*, CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users or residents unless the proposed project would exacerbate an existing environmental hazard. Implementation of the proposed project would not cause or exacerbate a seismic event including the rupture of a known earthquake, strong seismic shaking, seismic-related ground failure, or seismic-related landslides. Mandatory adherence to applicable building code and building permit requirements as well as compliance with City of Davis General Plan Policies would help ensure that the seismic-related effects are reduced to the maximum extent practicable. Further, as discussed in the City of Davis General Plan, there are no known faults in the City, and the City is not in an Alquist-Priolo Earthquake Fault Zone. Therefore, implementation of the proposed project is not anticipated to result in substantial adverse effects, including the risk of loss, injury, or death involving these seismic-induced hazards. Nonetheless, the design-controllable aspects of building foundation support, protection from seismic ground motion, and soil or slope instability are governed by existing regulations of the State of California or the City of Davis. These regulations, including the California Building Standards Code, the City's building permit requirements, and the City's General Plan policies, require that that individual project designs reduce potential adverse soils, geology, and seismicity effects to less than significant levels. Compliance with these regulations is required, not optional, and would

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need to be demonstrated by the applicant of the future development before construction permits are issued. This would reduce potential effects related to seismic-related effects to a less than significant level.

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

No Impact. Erosion is a normal and inevitable geologic process whereby earthen materials are loosened, worn away, decomposed, or dissolved, and removed from one place and transported to another. The majority of the Specific Plan Area is developed and includes buildings, surface parking lots, maintained landscaping, and ornamental trees. Construction of future development as the proposed project is implemented could involve clearing, grading, and trenching at individual sites. However, these future development projects would be required to comply with structural and nonstructural best management practices before, during, and after construction to control surface runoff and erosion to retain sediment in the Specific Plan Area.

For example, if development within the Plan Area involves clearing, grading, or excavation that causes soil disturbance of one or more acres, it is subject to the provisions of the National Pollutant Discharge Elimination System (NPDES) State General Permit (Order No. R8-2010-0033). To obtain a NPDES Permit, such projects would be required to prepare and comply with an approved Stormwater Pollution Prevention Plan (SWPPP) that provides a schedule for the implementation and maintenance of erosion control measures and a description of the erosion control practices, including appropriate design details and a time schedule. Additionally, these projects would be required to obtain a grading permit from the City's Community Development and Sustainability Department. Once these developments are constructed, soil erosion would be controlled with improvements installed in the Specific Plan Area. Therefore, no impact would occur.

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

No Impact. The soils underneath the Specific Plan Area are composed of a high proportion of silt and clay, which are relatively stable soil types that are only moderately or slowly permeable. As such, the chances of subsidence, liquefaction, and lateral spreading are low. Further, the Specific Plan Area is generally flat and not subject to landslides. Further, as stated above, CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users or residents unless the proposed project would exacerbate an existing environmental hazard. Future development under the proposed project would be required to comply with the California Building Standards Code and existing regulations of the City. These regulations would require that individual development projects be designed in a way that reduces potential adverse soils, geology, and seismicity effects to less than significant levels. Compliance with these regulations is mandatory, and must be demonstrated by future project applicants to have been incorporated in the project's design before permits for future project construction would be issued. Implementation of the proposed project would not cause or exacerbate phenomena such as landslide, lateral spreading, subsidence, liquefaction, or collapse. Therefore, there would be no impact.

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- 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?**

Less Than Significant Impact. Expansive soils swell when they become wet and shrink when they dry out, resulting in the potential for cracked building foundations. According to the City of Davis General Plan, the City has a moderate to high potential for soil expansivity due to moisture and temperature. Potential future development that may occur under implementation of the proposed project would be required to comply with current California Building Code standards, which includes provisions for construction on expansive soils. Compliance with the California Building Code and recommendations made through site-specific geotechnical reports would ensure that direct or indirect risks to life or property due to the location of future development would be less than significant.

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

No Impact. Future development would connect to the existing local sewer system, similar to the existing development in the Specific Plan Area. As no septic tanks or alternative wastewater disposal systems will be used, there would be no impact.

- f) **Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

Less Than Significant Impact. Paleontological resources are fossilized evidence of past life on earth such as bones, shells, leaves, tracks, burrows, and impressions. Given that the majority of the Specific Plan Area is developed, the land within the Specific Plan Area has undergone previous ground disturbance and construction activities, such as grading, excavation, and trenching for utility connection, and any existing paleontological resources or unique geologic features would have likely already been discovered. Therefore, it is unlikely that buried paleontological resources would be discovered or damaged by future development in the Specific Plan Area. Although not likely, there is a chance that previously unknown paleontological resources may be unearthed during grading and excavation activities of potential future development. The Davis General Plan adopted several goals, policies, standards, and actions which pertain to the designation and preservation of paleontological resources, including in the Specific Plan Area. In the event that previously unknown paleontological resources are identified in the Specific Plan Area during future grading or excavation activities, the protocol set forth in the Davis General Plan Policy HIS 1.2 would be enforced, in addition to Mitigation Measures CUL-2 and CUL-3 which address the discovery and handling of archaeological resources. Therefore, impacts would be less than significant.

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6.1.3 MINERAL RESOURCES

Would the project:

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

No Impact. According to the City's General Plan, there are no significant aggregate mineral resources in the City. Additionally, the Specific Plan Area and surroundings are already developed with buildings and other improvements, and therefore, no loss of known resources would occur as a result of project implementation. No Impact would occur.

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

No Impact. There are no mines or other mineral resource recovery sites delineated in the City's General Plan or mapped on or near the City on the State Division of Mine Reclamation's Mines Online map.² Future development in the Specific Plan Area would not cause a loss of availability of a mining site, and no impact would occur.

6.1.4 TRIBAL CULTURAL RESOURCES

- 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), or
 - 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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less Than Significant Impact. A tribal cultural resource is defined as a site, feature, place, cultural landscape (must be geographically defined in terms of size and scope), sacred place, or object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the California Register, or included in a local register of historical resources, or if the City of Davis, acting as the lead agency, supported by substantial evidence, chooses at its discretion to treat the resources as a tribal cultural resource.

² Division of Mine Reclamation (DMR). 2016. Mines Online. California Department of Conservation. <https://maps.conservacion.ca.gov/mol/>

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Consultation was conducted in accordance with AB 52 and SB 18. Interested tribes were notified of the proposed project in July 2020. Yocha Dehe Wintun Nation replied and requested consultation. A consultation meeting was held with a tribal representative in September 2020. It was agreed that the tribe would continue to receive project notifications and additional meetings held as needed.

As discussed under Impacts CUL-2 and CUL-3 in Chapter 4.4, impacts from future development in the Specific Plan Area could impact unknown archaeological resources including Native American artifacts and human remains, which could be recognized as tribal cultural resources. As determined, the current General Plan's goals, policies, standards, and actions, including Policy HIS 1.2 as well as Mitigation Measures CUL-2 and CUL-3 would ensure impacts to unknown archeological resources, including those of importance to Native Americans, are avoided.

Therefore, compliance with existing federal, State, and local laws and regulations and Mitigation Measures CUL-2 and CUL-3 would protect any unrecorded tribal cultural resources that may be unearthed from future development in the Specific Plan Area as a result of implementation of the proposed project. Accordingly, impacts to tribal cultural resources would be less than significant.

6.1.5 WILDFIRE

Wildland fire protection in California is the responsibility of either the local government, state, or the federal government. State Responsibility Areas (SRA) are the areas in the state where the State of California has the primary financial responsibility for the prevention and suppression of wildland fires. The SRA forms one large area over 31 million acres to which the California Department of Forestry and Fire Protection (CAL FIRE) provides a basic level of wildland fire prevention and protection services (FRAP 2019b). The closest SRA to the City is located west of the City of Winters, approximately 15 miles from the Specific Plan Area.

Local Responsibility Areas (LRA) include incorporated cities, cultivated agriculture lands, and portions of the desert. LRA fire protection is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract to local government). CAL FIRE uses an extension of the SRA Fire Hazard Severity Zone model as the basis for evaluating fire hazard in LRAs. The LRA hazard rating reflects flame and ember intrusion from adjacent wildlands and from flammable vegetation in the urban area. The Davis Fire Department currently provides fire protection and emergency medical services to the City.

Fire Hazard Severity Zones (FHSZ) are identified by Moderate, High and Very High in a SRA, and Very High in an LRA. The Specific Plan Area is not in or near a SRA, nor are any lands in the City of Davis LRA classified as high fire hazard severity zones.³

³ California Department of Forestry and Fire Prevention (CAL FIRE), 2007 November 7, Fire Severity Zones in SRA, https://osfm.fire.ca.gov/media/6855/fhszs_map57.pdf.

California Department of Forestry and Fire Prevention (CAL FIRE), 2007 October 5, Draft Fire Hazard Severity Zones in LRA, https://osfm.fire.ca.gov/media/6854/fhszl06_1_map57.pdf

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If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

- a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. As demonstrated above, the Specific Plan Area is not in or near a SRA or lands classified as high fire hazard severity zones. Additionally, the County of Yolo Emergency Operations Plan (EOP) was approved by Board of Supervisors on December 2013. Implementation of the proposed project would not have a significant impact on implementation of the EOP, as substantiated in Section 4.6. Therefore, no impact would occur.

- b) 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?

No Impact. As demonstrated above, the Specific Plan Area is not in or near a SRA or lands classified as high fire severity zones. Wildfire risk is the damage a fire can do to values at risk in the area—such as people, structures, and natural resources such as habitat or timber—under existing and future conditions.⁴ Development pursuant to the proposed project would not add wildland vegetation to the Specific Plan Area. Future development would also not change site topography (such as adding large slopes) that would exacerbate wildfire spread. Therefore, development would not exacerbate wildfire hazards in the Specific Plan Area. While development pursuant to the proposed project would add people and structures that could be at risk from a wildfire, development would not exacerbate wildfire risks onsite. Thus, implementation of the proposed project would not expose project occupants to pollutant concentrations from a wildfire or uncontrolled spread of wildfire and no impact would occur.

- 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?

No Impact. As demonstrated above, the Specific Plan Area is not in or near a SRA or lands classified as high fire severity zones. Additionally, project development would involve installation and maintenance of infrastructure including roads and power lines. Installation of such infrastructure would not exacerbate wildfire risks as discussed in Section 6.1.8(b). Therefore, no impact would occur.

- 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?

No Impact. As demonstrated above, the Specific Plan Area is not in or near a SRA or lands classified as high fire severity zones. Project development would not exacerbate wildfire hazards onsite, as substantiated above in section 6.1.8(b). Therefore, development would not expose people or structures

⁴ CAL FIRE, 2007, May, Fire Hazard Severity Zone Model: A Non-technical Primer, https://www.sccgov.org/sites/dpd/DocsForms/Documents/FireHazardZone_NonTechnical_Primer.pdf

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downslope or downstream from the Specific Plan Area to substantial risks resulting from wildfires, such as flooding or landslides. No impact would occur.

6.2 SIGNIFICANT AND UNAVOIDABLE IMPACTS

Section 15126.2(c) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. The following impacts were found to be significant and unavoidable:

AES-2: Implementation of the proposed project could damage scenic resources related to historic buildings.

AQ-1: Implementation of the Downtown Davis Specific Plan would exceed the regional significance thresholds and conflict with or obstruct implementation of the applicable air quality plan

AQ-2: Construction and operation of the proposed project would 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.

AQ-3: Construction activities associated with implementation of the Downtown Davis Specific Plan would expose sensitive receptors to substantial criteria air pollutant concentrations.

AQ-5: Implementation of the Downtown Davis Specific Plan would exceed the applicable Yolo-Solano significance thresholds and result in cumulative considerable air quality impacts.

CUL-1: Implementation of the proposed project could impact historic resources.

CUL-4: Implementation of the proposed project could have a cumulatively considerable impact on historic resources.

GHG-1: Implementation of the Downtown Davis Specific Plan could generate a net increase in GHG emissions that would have a significant impact on the environment.

GHG-3: Implementation of the Downtown Davis Specific Plan could result in cumulatively considerable GHG emissions impacts.

NOI-1: Implementation of the proposed project could result in the generation of a substantial temporary increase in ambient noise levels in the vicinity of the Specific Plan Area in excess of standards established in the local noise ordinance during construction activities.

NOI-4: Implementation of the proposed project could result in a cumulatively considerable construction noise impact.

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6.3 GROWTH INDUCEMENT

Section 15126.2(e) of the CEQA Guidelines requires that an EIR discuss the ways in which a project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Typical growth inducing factors might be the extension of urban services or transportation infrastructure to a previously unserved or under-served area, or the removal of major barriers to development. This section evaluates the proposed project's potential to create such growth inducements. Not all aspects of growth inducement are negative; rather, negative impacts associated with growth inducement occur only where the project growth would cause adverse environmental impacts.

During construction of development allowed under the Specific Plan, a number of design, engineering, and construction jobs would be created. These jobs would be temporary in nature as related to specific developments projects. Construction employees would be absorbed from the regional labor force, and the construction in the Specific Plan Area is not anticipated to attract new workers to the region.

Upon buildout of the Specific Plan, approximately 1,702 residents and 1,714 jobs would be generated (see Section 4.10, *Population and Housing*). Residents of the Specific Plan Area would seek shopping, entertainment, employment, home improvement, auto maintenance, and other economic opportunities in the City of Davis and surrounding area. This would create an increased demand for such economic goods and services and would, therefore, encourage the creation of new businesses and/or expansion of existing businesses that address these needs. The close proximity of new residential units to the commercial uses in the Specific Plan Area and surroundings would result in beneficial impacts to the City's jobs-housing balance (see Section 4.10, *Population and Housing*). Finally, the Specific Plan Area is a previously developed area in the center of the City of Davis, and would not involve the extension of infrastructure or services to a previously unserved area. Therefore, although the proposed project would have a direct growth-inducing effect, indirect growth-inducing effects would be minimized due to the balance of land uses in the proposed project.

6.4 SIGNIFICANT IRREVERSIBLE CHANGES

Section 15126.2(d) of the CEQA Guidelines requires an EIR to discuss the extent to which the proposed project would commit nonrenewable resources to uses that future generations would probably be unable to reverse. Specifically, the CEQA Guidelines state:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highways improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

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The following are the significant irreversible changes that would be caused by the proposed project, should it be implemented:

- Implementation of the proposed project would result in construction activities that would entail the commitment of nonrenewable and/or slowly renewable energy resources; human resources; and natural resources such as lumber and other forest products, sand and gravel, asphalt, steel, copper, lead, other metals, water and fossil fuels. Operation of the future development facilitated by the project would require the use of natural gas and electricity, petroleum-based fuels, fossil fuels, and water. The commitment of resources required for the construction and operation of development under the proposed project would limit the availability of such resources for future generations or for other uses during the life such developments.
- An increased commitment of social services and public maintenance services (e.g., police, fire, schools, libraries, and sewer and water services) would also be required as the Specific Plan is implemented. The energy and social services commitments would be long-term obligations in view of the low likelihood of returning the land to its original condition once it has been developed.
- An increase in vehicle trips would accompany project-related population growth. Over the long term, emissions associated with such vehicle trips would continue to contribute to the Sacramento Valley Air Basin's nonattainment designation for ozone (O₃) and particulate matter (PM₁₀) under the California and National Ambient Air Quality Standards (AAQS), and nonattainment for nitrogen dioxide (NO₂) under the California AAQS.
- The visual character of the Specific Plan Area would be altered by the construction of new developments and redevelopment. Additional landscaping, grading, and construction of the Specific Plan Area would also contribute to an altered visual character of the existing area. This would result in a permanent change in the character of the Specific Plan Area and on- and off-site views in the project's vicinity.

Given the low likelihood that the land in the Specific Plan Area would revert to its original form, the proposed project would generally commit future generations to these environmental changes.

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