APPLICATIONS

HOUSING ELEMENT STREAMLINING CHECKLIST FORM
Project Within the Scope of The Program EIR

OVERVIEW

On November 24, 2021, the City Council certified the Citywide Housing Element 2021-2029 and Safety Element Updates Final Environmental Impact Report (EIR), SCH No. 2021010130, EIR No. ENV-2020-6762-EIR (Program EIR), to adopt the 2021-2029 Citywide Housing Element and the Updates to the Safety Element and the Plan for a Healthy LA (Health Element). Pursuant to CEQA Guidelines Sections 15168(c)(4) and 15168(d), the following Proposed Housing Project has been found to be within the scope of the program analyzed in the Program EIR and its environmental effects are within the scope of environmental impacts assessed in the Program EIR.

For additional information regarding this form, see the Housing Element Streamlining Checklist Form Instructions (CP-4091) at the Department of City Planning Forms Page.

TO BE COMPLETED BY PLANNING STAFF ONLY

PROPOSED HOUSING PROJECT

The Project Site is currently occupied by the New Covenant Academy, a private school on the southern portion of the Project Site, and an approximately 27,843 square-foot four-story office building with subterranean parking on the northern portion of the Project Site. The New Covenant Academy includes a one-story (plus mezzanine) 12,800 square-foot church building which was constructed in 1936 for the First English Evangelical Lutheran Church. The "L-shaped" building is designed in the Spanish Colonial Revival architectural style and is currently used by the New Covenant Academy as a basketball court/gym, a kitchen and food hall/theatre stage and classrooms.

The Project involves the demolition of the four-story office building and some of the existing school structures, including a 4,105-square-foot one-story school classroom building, a 2,412-square-foot, two-story classroom building, and restroom and storage facilities (1,760 square feet), canopies, and surface parking. The Project includes a new eight-story building containing 318 residential units and 234 parking spaces located on the northern portion of the Project Site. The development includes 149 studios, 138 one-bedroom units, and 31 two-bedroom units. On the southern portion of the Project Site, the existing former church building would be repurposed with 21,482 square feet of commercial.

Thirty-five (35) units (11 percent) would be restricted as affordable housing for Very Low-Income Households. The new residential building will be 96 feet in height to the top of the parapet. Overall, the Project includes approximately 262,638 square feet of building area and a floor area ratio (FAR) of 4.29:1.

Vehicular parking spaces will be located within three (3) levels of parking, one (1) at grade level and two (2) subterranean levels. The subterranean parking will be located directly below the new residential components; no subterranean parking would be located below the retrofitted former church building. Bicycle parking spaces pursuant to the Los Angeles Municipal Code (LAMC) would be provided on-site (155 long term and 16 short term spaces)

☒ Please check this box if you have provided an attachment with additional project description information to this form.

DETERMINATIONS

Based upon the attached, "Project Within the Scope of the Housing Element Program EIR Checklist and Analysis," the whole of the administrative record on the Proposed Housing Project, and a review and consideration of the Program EIR, the decisionmaker finds all the following statements to be true:

1. This Proposed Housing Project is within the scope of the previously approved program for which the Program EIR was certified.
2. This Proposed Housing Project will have no significant environmental effects not examined in the Program EIR.
3. The Program EIR adequately described the Proposed Housing Project for the purposes of California Environmental Quality Act (CEQA).
4. Pursuant to CEQA Guidelines Section 15162, no substantial changes to the project analyzed in the Program EIR are proposed as part of this Proposed Housing Project. Further, no substantial changes have occurred with respect to the circumstances under which the Program EIR was certified, and no new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time that the Program EIR was certified as complete, has become available.
5. All applicable mitigation measures, identified in the Program EIR Mitigation Monitoring Program (MMP), have been incorporated into the Proposed Housing Project or will be made into enforceable obligations on the Proposed Housing Project. A mitigation and monitoring program has been prepared for adoption.

NOTES

Planning Staff Signature: **Print Name: Michelle Carter**

Phone Number: 213.978.1262 **Date: March 3, 2025**

ATTACHMENT

PROJECT WITHIN THE SCOPE OF THE HOUSING ELEMENT PROGRAM EIR - CHECKLIST AND ANALYSIS

The following checklist and analysis shall be used to determine if the Proposed Housing Project, described below, is within the scope of the Citywide Housing Element 2021-2029 and Safety Element Updates Final EIR, SCH No. 2021010130, EIR No. ENV-2020-6762 (Program EIR), certified by the City Council.

A. PROPOSED HOUSING PROJECT

A.1 Proposed Housing Project Title:

550 Shatto Place Project

A.2 Proposed Housing Project Description:

The Project Site is currently occupied by the New Covenant Academy, a private school on the southern portion of the Project Site, and an approximately 27,843 square-foot four-story office building with subterranean parking on the northern portion of the Project Site. The New Covenant Academy includes a one-story (plus mezzanine) 12,800 square-foot church building which was constructed in 1936 for the First English Evangelical Lutheran Church. The “L-shaped” building is designed in the Spanish Colonial Revival architectural style and is currently used by the New Covenant Academy as a basketball court/gym, a kitchen and food hall/theatre stage and classrooms.

The Project involves the demolition of the four-story office building and some of the existing school structures, including a 4,105-square-foot one-story school classroom building, a 2,412-square-foot, two-story classroom building, and restroom and storage facilities (1,760 square feet), canopies, and surface parking. The Project includes a new eight-story building containing 318 residential units and 234 parking spaces located on the northern portion of the Project Site. The development includes 149 studios, 138 one-bedroom units, and 31 two-bedroom units. On the southern portion of the Project Site, the existing former church building would be repurposed with 21,482 square feet of commercial.

Thirty-five (35) units (11 percent) would be restricted as affordable housing for Very Low-Income Households. The new residential building will be 96 feet in height to the top of the parapet. Overall, the Project includes approximately 262,638 square feet of building area and a floor area ratio (FAR) of 4.29:1.

Vehicular parking spaces will be located within three (3) levels of parking, one (1) at grade level and two (2) subterranean levels. The subterranean parking will be located directly below the new residential components; no subterranean parking would be located below the retrofitted former church building. Bicycle parking spaces pursuant to the LAMC would be provided on-site (155 long term and 16 short term spaces). A detailed description of the Project is provided in Appendix A).

A.3 Project Location Description:

The Project Site is bounded by Shatto Place on the west, West 6th Street on the south, West 5th Street to the north, and South Westmoreland (APN 5077-004-033 and 5077-004-025) The Project Site is served by a network of regional transportation facilities providing connectivity to the larger metropolitan area. The Project Site is 0.95 miles south of U.S. Route 101 (US 101), 1.75 miles west of Interstate 110 (I-110), and 1.89 miles north of Interstate 10 (I-10). The Project Site is close to many major bus transit lines, including Metro and DASH services (Metro Lines 18, 20, 204, 720, and 754 and the Wilshire Center/Koreatown DASH line) and is approximately 500 feet from the Wilshire/Vermont Metro Station where the hard rail B and D lines have stops.

A.4 Surrounding Area and Uses:

Environmental Setting

The Project Site is in a highly urbanized area surrounded by a mix of land uses, including commercial, office, and residential uses as well as institutional and school facilities.

Site Background and Existing Site Conditions

The Project Site is currently occupied on the southern portion by the New Covenant Academy, a private school serving grades K-12, and on the northern portion by a four-story office building.

A.5 Project Contact/Owner Information:

TF SHATTO LP

Devin Spence

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A.6 Document Prepared by:

Kimley-Horn

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B. PROGRAM EIR BACKGROUND

B.1 CEQA Guidelines Section 15168

The California Environmental Quality Act (CEQA) provides for limited environmental review of subsequent projects under a Program EIR. (CEQA Guidelines Section 15168.) Later activities under a continuing program analyzed in the Program EIR must be examined to determine whether any additional environmental analysis must be conducted. (Guidelines Section 15168(c)(1).) If a lead agency finds that pursuant to Guidelines Section 15162, no subsequent EIR would be required, the lead agency can approve the activity as being within the scope of the project covered by the Program EIR, and no new environmental document would be required. (Guidelines Section 15168(c)(2).) Whether a later activity is within the scope of a Program EIR is a factual question that the lead agency determines based upon substantial evidence in the record. (Guidelines Section 15168(c)(2).) The lead agency shall incorporate feasible mitigation measures from the Program EIR Mitigation and Monitoring Program (MMP) into later activities in the program. (Guidelines Section 15168(c)(3).) Where the later activities involve site specific operations, the lead agency should use a written checklist to determine whether the environmental effects of the site-specific operations are within the scope of the Program EIR. (Guidelines Section 15168(c)(4).)

B.2 Program EIR

In certifying the Program EIR and approving the project, the City Council adopted the following findings related to the scope of the project analyzed in the Program EIR and the types of impacts analyzed:

> *The EIR analyzed the build out of the Regional Housing Needs Assessment (RHNA), that is the build out of 420,327 housing units in eight years (456,643 RHNA minus 36,316 housing units that have received approvals but have not yet been built and/or received the certificate of occupancy [pipeline projects]). The EIR analyzed the program-level impacts from the full build out of the RHNA, as well as the project-level impacts that occur from the development of the types of housing projects that will be developed from build out of the RHNA. The following types of housing projects were analyzed and within the scope of this EIR:*
>
> - *Multi-family residential, ranging from small apartment buildings with two to 10 units, medium apartment buildings with between 11-49 units, large apartment buildings with between 50-200 units, or larger apartment buildings and high-rise structures with more than 200 units.*
> - *Single-family residential, ranging in size and scale from smaller single-family homes to larger single-family homes, small-lot subdivisions and new single subdivisions.*
> - *Accessory dwelling units (ADUs), including attached ADUs, detached ADUs, Junior ADUs, ADUs converted from existing floor area, multiple ADUs on lots with existing multi-family dwellings, and Movable Tiny Homes.*
> - *The mixed-use development ranges in size and scale from neighborhood commercial mixed-use with smaller nonresidential uses, to high-rise mixed-use with larger nonresidential uses.*
> - *Conversion and/or rehabilitation of existing nonresidential, residential, or mixed-use structures to be used for housing.*

Housing types for different income levels were analyzed, including single-resident occupancy and affordable housing that may be for families, seniors, residents with special needs or permanent supportive housing. The EIR also analyzed the impacts from various locations, geographies, and environments where build out of the RHNA could occur, including the following:

- *Sites currently zoned for residential uses, including multi-family and single-family uses;*
- *Sites currently zoned for commercial uses, which permit residential uses;*
- *Sites currently zoned for hybrid industrial uses, which permit joint live-work residential uses;*
- *Non-vacant sites, and sites with existing housing;*
- *Sites located near public transit;*
- *Sites located in a Historic Preservation Overlay Zone (HPOZ)*
- *Sites located in areas with special environmental considerations, such as areas located by Open Space, Hillside Areas, Very High Fire Hazard Severity Zones (VHFHSZ) or Coastal Zones.*

To analyze project-level impacts on the environment from the variety of housing types and locations that could potentially be built to accommodate the RHNA citywide, the City established a team of experienced project planners who have experience in reviewing environmental documents and analyzing or consulting on environmental impacts for housing projects, as well as other development types, across the entire City geography, including project planners who work in the Major Projects Section, who are responsible for reviewing and preparing all EIRs citywide for the Planning Department; planners who work in the Citywide Environmental Policy Unit who are responsible for advising on all CEQA impact issues, training and advising planners on preparing CEQA clearances; as well as project planners who review and prepare exemptions, negative declarations, mitigated negative declarations, and sustainable communities environmental assessments (SCEAs) within specific geographies in the City. After assembling this consulting team, the City surveyed the thousands of environmental assessments that have been prepared in the last five years for housing development of the type that will build out the RHNA and selected 54 case studies to discuss in the EIR which identify both the typical- and worst-case environmental impacts from housing development. In the survey of environmental assessments, it was determined that the City reviews hundreds of discretionary housing projects every year for CEQA compliance, that the largest majority of housing projects do not require mitigation, as many housing development projects are found to be exempt from CEQA (specifically, hundreds of categorical exemptions are used for small to medium scale housing projects, including Class 32 for infill projects up to 75 units or less); and less than 10 percent of discretionary housing projects require an EIR due to significant and unavoidable impacts. Based on this, the case studies are more heavily weighted toward larger-scale projects or those in sensitive environments that are more likely to have significant impacts. Smaller projects in more urban infill areas typically do not require an EIR, a mitigated negative declaration, or SCEA, unless there are specific site conditions, such as historical resources, site contamination, or archaeological resources, that raise potential environmental impact concerns. The case studies, which include EIRs, mitigated negative declarations, and SCEAs, were selected based on the type of project (e.g., multi-family residential, single-family residential, ADUs, mixed-use development, and conversion and/or rehabilitation), scale of project (single-family to large tower/mixed use), locations with *the broadest range of geographies and environmental conditions, and levels of development and density (hillsides, urban, regional centers, coastal, and suburban areas), as well as projects that include income-restricted projects. The intent was to be conservative and identify all of the reasonably foreseeable ways housing can result in environmental impacts in the City, as well as identify the best mitigation measures developed to address those impacts. The City finds the case studies reviewed in the EIR and their identified level of impacts (i.e., no impacts, less than significant impacts, less than significant impacts with mitigation, and significant and unavoidable impacts) are representative of the typical- and worst-case environmental impacts of housing development to be built to accommodate the RHNA. Also, the City finds that it is not reasonably foreseeable that housing development that will build out the RHNA will have significant impacts in those impact categories that were scoped out in the Initial Study (Appendix A to the FEIR). Additionally, the City finds the mitigation measures, developed in the EIR and included in the MMP, to be used by projects within the scope of the EIR, are comprehensive and based on the screening criteria included in those mitigation measures, further studies, and performance standards will, in a majority of circumstances, reduce environmental impacts from housing development to less than significant. However, based on the findings below and the EIR analysis, even with the application of the mitigation measures in the MMP, significant impacts identified in the Program EIR Findings can still occur from housing development of all types throughout the City. The City Council finds the EIR has analyzed and identified the significant impacts that are reasonably foreseeable from housing development in the City for the types of housing projects (described above) that will accommodate the RHNA. (Appendix A: Citywide Housing Element 2021-2029 and Safety Element Updates Final EIR, CEQA Findings of Facts and Statement of Overriding Considerations.)*

Additional information regarding the analysis of the impacts from housing projects or the Housing Element Program and build-out of the RHNA is provided in Environmental Analysis, Section 4.0, of the Draft EIR.

B.3 Environmental Impacts Analyzed in the Program EIR

The environmental impacts analyzed and the impact conclusions identified for Projects within the Scope of the Program EIR are shown in Appendix A, CEQA Findings of Facts and Statement of Overriding Consideration for the 2021-2029 Citywide Housing Element and Safety Element Updates, and in the Program EIR, which may be found at https://planning.lacity.org/development-services/eir.

B.4 Program EIR Mitigation Measures

The City Council adopted the MMP for the 2021-2029 Housing Element, provided in Appendix B. The MMP provides that, subject to City authority, the applicable mitigation measures in the MMP shall be imposed as conditions of approval for a project analyzed as a subsequent approval pursuant to CEQA Guidelines Section 15168.

C. FINDING THAT THE PROPOSED HOUSING PROJECT IS A PROJECT WITHIN THE SCOPE OF THE PROGRAM FOR WHICH THE PROGRAM EIR WAS CERTIFIED

Check all of the boxes in Table C-1 that describe the Proposed Housing Project:

Table C-1

☒	**Multi-family residential development** – Range from small apartment buildings with two to 10 units, medium apartment buildings with between 11-49 units, large apartment buildings with between 50-200 units, or larger apartment buildings and high-rise structures with more than 200 units
☐	**Single-family residential development** – Range in size and scale from smaller single-family homes to larger single-family homes, small lot subdivisions, and new single-family subdivisions
☐	**Accessory dwelling unit (ADU**) - Include attached ADUs, detached ADUs, Junior ADUs, ADUs converted from existing floor area, multiple ADUs on lots with existing multi-family dwellings, and Movable Tiny Houses
☒	**Mixed-use development** - Range in size and scale from neighborhood commercial mixed use with smaller nonresidential uses, to high-rise mixed-use with larger nonresidential uses
☐	**Conversion and/or rehabilitation** – Existing nonresidential, residential and mixed-use structures to be converted/rehabilitated for housing
☒	**Housing type for different income levels**, including single-resident occupancy and affordable housing that may be for families, seniors, residents with special needs or permanent supportive housing

CONCLUSION

Check one of the following:

☒ **AT LEAST ONE BOX IN TABLE C-1 IS CHECKED**

The Proposed Housing Project is within the scope of the program that was analyzed in the Program EIR. Go to Section D and E to determine if the site-specific environmental effects of the Proposed Housing Development are within the scope of the Program EIR.

☐ **NONE OF THE BOXES IN TABLE C-1 ARE CHECKED**

The Proposed Housing Project is not within the scope of the program that was analyzed in the Program EIR. A separate environmental analysis is required.

D. MITIGATION MEASURES APPLICABLE TO THE PROPOSED HOUSING PROJECT

The following mitigation measures (MMs) from the MMP (Appendix B) are relevant and applicable to the Proposed Housing Project based on the mitigation measure thresholds of applicability and based on a review of the Proposed Housing Project:

Check all MMs from the MMP that apply to the Project and provide a brief explanation of why any mitigation measures are not triggered by the applicability standard in the mitigation measure:

Mitigation Measure		Applies to Proposed Housing Project
Air Quality		
4.2-2(a)	Construction Emissions Reduction	☒ Yes ☐ No
4.2-2(b)	Operations Emissions Reduction	☐ Yes ☒ No
4.2-3	Construction TAC Reduction Measures	☐ Yes ☒ No

Brief explanation:

Program EIR Mitigation Measure 4.2-2(b) *Operations Emissions Reduction* would not apply to the Project. As determined in the Operational Air Quality Assessment Memorandum (Appendix G-2), the Project would not result in any significant effects related to operational air pollutant concentrations and the Project would not exceed the emissions threshold of a 612-unit multi-family, 462-unit single-family or equivalent operational emissions reduction trigger. Therefore, Mitigation Measure 4.2-2(b) is not applicable to the Project.

Program EIR MM 4.2-3, *Construction TAC Reduction Measures* is not applicable to the Project, as the Project is requiring off-road diesel-powered construction equipment to meet the Tier 4 final off-road emissions standards.

The Project would require demolition of 27,843 square feet and the export of approximately 43,849 cubic yards of soil. Thus, per the requirements of Program EIR Mitigation Measure Program EIR Mitigation Measure 4.2-2(a), a Construction Air Quality Assessment was prepared by Kimley-Horn and Associates, October 2024 **(Appendix G-1)**. Project Specific MM AIR-1 would be implemented to be consistent with the requirement of the Program EIR MM 4.2-2(a).

A Construction Air Quality Assessment was prepared by Kimley-Horn and Associates, October 2024 **(Appendix G-1)**. As concluded in the Construction Air Quality Assessment, approval of the Project would not result in any significant effects relating to construction air pollutant concentrations.

Mitigation Measure		Applies to Proposed Housing Project
Biological Resources		
4.3-1(a)	Biological Resources Reconnaissance Survey and Reporting	☐ Yes ☒ No
4.3-1(b)	Sensitive Species/Habitat Avoidance: Pre-Construction Bird Nest Surveys, Avoidance, and Notification	☐ Yes ☒ No
4.3-1(c)	Focused Surveys for Rare Plants	☐ Yes ☒ No
4.3-1(d)	Adaptive Management Plan	☐ Yes ☒ No
4.3-2(a)	Habitat Mitigation and Monitoring Plan	☐ Yes ☒ No
4.3-2(b)	Protected Tree and Tree Canopy Survey	☒ Yes ☐ No

Brief explanation:

The Project Site lacks native and critical habitat and is fully surrounded by residential, office, commercial, and institutional uses. The Project Site is currently developed with school-related buildings, an office, and a surface parking lot therefore, Program EIR MMs 4.3-1(a) *Biological Resources Reconnaissance Survey and Reporting*, 4.3-1(b) *Sensitive Species/Habitat Avoidance: Pre-Construction Bird Nest Surveys, Avoidance, and Notification*, 4.3-1(c) *Focused Surveys for Rare Plants,* 4.3-1(d) *Adaptive Management Plan* and 4.3-2(a) *Habitat Mitigation and Monitoring Plan* would not be applicable.

Program EIR MM 4.3-2 (b), *Protected Tree and Tree Canopy Survey* would be applicable to the Project. Program EIR MM 4.3-2 (b) which among other measures, requires a tree report and tree replanting plan to be prepared by a certified arborist. Consistent with Program EIR MM 4.3-2 (b), the Project prepared a Tree Inventory Report (Appendix B) by a certified arborist. The Tree Inventory Report was provided to the City for review.

Mitigation Measure		Applies to Proposed Housing Project	
Cultural Resources			
4.4-1(a)	Identification of Built-Environment Historical Resources	☒ Yes	☐ No
4.4-1(b)	Rehabilitation of Historical Resources	☐ Yes	☒ No
4.4-1(c)	Design Requirements for New Construction	☒ Yes	☐ No
4.4-1(d)	Relocation and Rehabilitation of Historical Resources	☐ Yes	☒ No
4.4-1(e)	Historic American Building Survey Documentation	☐ Yes	☒ No
4.4-1(f)	Interpretive Program	☐ Yes	☒ No
4.4-1(g)	Construction Monitoring, Salvage, and Reuse	☐ Yes	☒ No
4.4-1(h)	Temporary Protective Relocation	☐ Yes	☒ No
4.4-1(i)	Excavation and Shoring Plan	☒ Yes	☐ No
4.4-1(j)	Structural Construction Monitoring	☒ Yes	☐ No
4.4-2	Archaeological Resources	☒ Yes	☐ No

Brief explanation:

Program EIR MM.4-1(b) *Rehabilitation of Historical Resources* would not be applicable. The Historic Resources Assessment (HRA) and the Historic Memorandum prepared for the Project (**Appendix D)** determined that the proposed alterations to the historic church building at 550 Shatto Place would not result in significant adverse impacts such that the church would no longer convey its historic significance. Project Specific MM CULT-1[1] would ensure that the Project would not result in significant impacts to historical resources. Project Specific MM CULT-1 would also satisfy the requirements of Program EIR MM *4.4-1(c) Design Requirements for New Construction*.

Program EIR MM 4.4-1(d) *Relocation and Rehabilitation of Historical Resources* and Program EIR MM 4.4-1(g) *Construction Monitoring, Salvage, and Reuse* would not be applicable as the Project is retaining the historic church building at 550 Shatto Place. Program EIR MM 4.4-1(d) *Relocation and Rehabilitation of Historical Resources* and Program EIR MM 4.4-1(g) *Construction Monitoring, Salvage, and Reuse* would not be applicable as the Project is retaining the historic church building at 550 Shatto Place. Program EIR MM 4.4-1(e) *Historic American Building Survey Documentation* and Program EIR MM 4.4-1(f) *Interpretive Program* would not be applicable. As noted above, the Project would not result in significant adverse impacts to historical resources.

Program EIR MM 4.4-1(h) *Temporary Protective Relocation* would not be applicable as the Project would retain the historic church building at 550 Shatto Place, protect it in place, and adapt it for new use.

The HRA, the HRA Addendum and the Historic Memorandum all satisfy Program EIR MM 4.4-1(a) *Identification of Built-Environment Historical Resources*.

[1] The Historic Memorandum (Appendix D) refers to Project Specific MM CULT-1 as PDF-CULT-1.

Program EIR MM 4.4-1(i), *Excavation and Shoring Plan* and Program EIR MM 4.4-1(j) *Structural Construction Monitoring* would be satisfied by Project Specific Mitigation Measure NOISE-7. As concluded in the HRA, the HRA Addendum and the Historic Memorandum, with recommended Project Specific Mitigation Measures (MMs NOISE-8, MM NOISE-9, and MM NOISE-10) listed below under Noise, would protect the structural integrity of the existing church building at 550 S. Shatto Place during excavation and construction processes, and the Project would not result in a significant impact to historical resources located on the Project Site.

Program EIR MM 4.4-2 *Archaeological Resources* would be applicable to the Project as the Project involves ground disturbance. An *Archaeological Resources Assessment Report* was prepared by ESA in September 2018 and an *Archaeological Resources Assessment Report-Addendum* was prepared by ESA in September 2020 (**Appendix C**). According to both archaeological reports, there were no known archaeological resources identified within the Project Site. The Project Site was identified as having a moderate to high potential for encountering buried historic period archaeological resources. The Project would implement the requirements of Program EIR MM 4.4-2 *Archaeological Resources*.

Mitigation Measure		Applies to Proposed Housing Project	
Geology and Soils			
4.5-1(a)	Paleontological Procedures for Discretionary Projects	☒ Yes	☐ No
4.5-1(b)	Worker Environmental Awareness Program, Fossil Salvage, and Construction Monitoring	☒ Yes	☐ No
4.5-1(c)	Construction Monitoring	☒ Yes	☐ No
4.5-1(d)	Fossil Discovery, Salvage, and Treatment	☒ Yes	☐ No

Brief explanation:

Program EIR MM 4.5-1(a) *Paleontological Procedures for Discretionary Projects,* 4.5-1(b) *Worker Environmental Awareness Program, Fossil Salvage, and Construction Monitoring,* 4.5-1(c) *Construction Monitoring* and 4.5-1(d) *Fossil Discovery, Salvage, and Treatment* would apply to the Project.

A Paleontological Resources Assessment Report was prepared by ESA in December 2018 and an updated *Paleontological Assessment Report-Addendum,* was prepared by ESA in September 2020 (**Appendix C**). According to both reports, based on the paleontological records search, Project-related excavation below 5 feet below ground surface (bgs) has the potential to encounter geologic units with high paleontological sensitivity (Pleistocene-age Older Quaternary alluvium and late Miocene-age Modelo/Puente Formation). Older Quaternary alluvium is known to be present within the Project Site at depths of approximately 5 to 30 feet bgs. The Modelo/Puente Formation is known to be present within the Project Site at depths of approximately 30 to 67 feet bgs. Since Project-related excavation is expected to extend to approximately 35 feet below existing surface, it could encounter paleontological resources below 5 feet and result in a potentially significant impact to paleontological resources. The *Paleontological Resources Assessment Report* recommended retention of a qualified Paleontologist to provide technical and compliance oversight of excavation and grading during construction, recovery of fossil materials, and reporting, related to paleontological resources, construction worker paleontological resources sensitivity training and paleontological resources monitoring. Compliance with these recommendations, would reduce any impacts to less than significant.

The Project would implement and be compliant with, the requirements of Program EIR MM 4.5-1(a) *Paleontological Procedures for Discretionary Projects,* 4.5-1(b) *Worker Environmental Awareness Program, Fossil Salvage, and Construction Monitoring,* 4.5-1(c) *Construction Monitoring* and 4.5-1(d) *Fossil Discovery, Salvage, and Treatment* any potentially significant impacts to paleontological resources to a less than significant level.

Hazards and Hazardous Materials			
4.7-2(a)	Environmental Site Assessment	☒ Yes	☐ No
4.7-2(b)	Site Remediation and Health and Safety Plan	☒ Yes	☐ No

Brief explanation:

Program EIR MM 4.7-2a, *Environmental Site Assessment* and 4.7-2b, *Site Remediation and Health and Safety Plan* would be applicable to the Project. An updated Memorandum (2024 Mitigation Monitoring Program Addendum, prepared by AEI Consultants March 13, 2024) was prepared to document any changes to the planned construction and assess whether the *2020 Updated Mitigation Monitoring Program Addendum* dated July 11, 2020, remains adequate for this Project (**Appendix E**).

Project Specific MM HAZ-1, MM HAZ-2, MM HAZ-3, and MM HAZ-4 would provide more specific and stringent standards than Program EIR MM 4.7-2a *Environmental Site Assessment*, and 4.7-2b *Site Remediation and Health and Safety Plan.*

Mitigation Measure		Applies to Proposed Housing Project	
Hydrology and Water Quality			
4.8-1	Drainage Pattern Alterations and Flood Control	☐ Yes	☒ No

Brief explanation:

Program EIR MM 4.8-1 *Drainage Pattern Alterations and Flood Control* would not apply to the Project as the Project would not impede or redirect flood flows with compliance with existing regulations and regulatory compliance measures (RCMS).

The Project would be designed to comply with the City of Los Angeles Low Impact Development (LID) design standards. Based on the Geotechnical Report provided by Geotechnologies, Inc., dated January 24, 2019, groundwater was encountered, and infiltration is not feasible. A Civil Report Memorandum (Appendix I) was prepared for the Project that included an approved Sewer Capacity Availability Request (SCAR) received from the Bureau of Sanitation and a Fire Service Pressure Flow report (SAR) from the Los Angeles Department of Water and Power. As indicated in the Civil Report Memorandum, the Project would be designed to comply with the City of Los Angeles LID design standards. The required BMPs, such as a bio-filtration flow through planter system or a rainwater harvesting system, shall be sized to collect the 85th percentile storm runoff volume based on Bureau of Sanitation Low Impact Development Standards. Based on existing regulatory compliance the project will not have significant impacts related to drainage and flood control and impacts will be less than significant.

Noise			
4.10-1(a)	Noise Shielding and Silencing	☒ Yes	☐ No
4.10-1(b)	Use of Driven Pile Systems	☐ Yes	☒ No
4.10-1(c)	Enclosures and Screening	☒ Yes	☐ No
4.10-1(d)	Construction Staging Areas	☒ Yes	☐ No
4.10-1(e)	Temporary Sound Barriers	☒ Yes	☐ No
4.10-1(f)	Project-Specific Construction Noise Study	☒ Yes	☐ No
4.10-2	Project-Specific Operational Noise Study	☐ Yes	☒ No
4.10-3(a)	Vibration Control Plan	☒ Yes	☐ No
4.10-3(b)	Vibration Mitigation	☒ Yes	☐ No

Brief explanation:

Program EIR Mitigation Measure 4.10-1(b) *Use of Driven Pile Systems* would not be applicable to the Project as no pile driving would occur. Program EIR MM 4.10-2 *Project-Specific Operational Noise Study* would not be applicable to the Project as the Project does not include a roof or pool deck. The Project would be consistent with Program EIR MMs 4.10-1(a) *Noise Shielding and Silencing,* 4.10-1(c), *Enclosures and Screening,* 4.10-1(d), *Construction Staging Areas,* 4.10-1(e), *Temporary Sound Barriers,* 4.10-1(f) *Project-Specific Construction Noise Study*.

Per the requirements of Program EIR MM 4.10-1(f) *Project-Specific Construction Noise Study*, a Construction Noise Study was prepared by Kimley-Horn and Associates, October 2024 **(Appendix F).** As determined in the Construction Noise Study, the Project would not result in any significant effects relating to on-site construction or off-site construction traffic noise. Project construction noise would not exceed the City's Noise and Vibration Thresholds Update significance criterion of 80 dBA Leq and would incorporate Project Specific MM- NOISE -1 through MM NOISE -7[2].

Per Public Resources Code § 21085 for residential projects, the effects of noise generated by project occupants and their guests on human beings is not a significant effect on the environment.

Program EIR MM 4.10-3(a), *Vibration Control Plan* and Program EIR MM 4.10-3(b) *Vibration Mitigation* would be applicable to the Project and would be satisfied by Project Specific Mitigation Measures NOISE-8, NOISE-9, and NOISE-10. While the Project would not require the use of pile drivers, Project Specific Mitigation Measures NOISE-8, NOISE-9, and NOISE-10 would implement construction vibration reduction strategies, development of a vibration monitoring program, and a shoring plan, respectively, to ensure the protection of the on-site former church building as well as the potential historic resources adjacent to the Project site during construction.

[2] The Project-Specific Construction Noise Study, (Appendix F) refers to Project Specific MM Noise 1 through 4 as PDFs.

Mitigation Measure		Applies to Proposed Housing Project	
Public Services			
4.12-1(a)	Design Plans Review	☐ Yes	☒ No
4.12-1(b)	Emergency Access	☐ Yes	☒ No
4.12-1(c)	Hillside Fire/Vegetation Management Plan	☐ Yes	☒ No
4.12-1(d)	Submittal of Plot Plan	☐ Yes	☒ No
4.12-2(a)	Crime Prevention Unit Consultation	☒ Yes	☐ No
4.12-2(b)	Security During Construction	☒ Yes	☐ No

Brief explanation:

Program EIR MM 4.12-1(a) *Design Plans Review* and Program EIR MM 4.12-1(d) *Submittal of Plot Plan* would not be applicable to the Project. The Project Site is located in an urban infill area and would be subject to compliance with fire protection design standards, as necessary, per the California Building Code (CBC), the Los Angeles Municipal Code (LAMC), and the LAFD, to ensure adequate fire protection. The Project Site is located in an urban infill area and would be subject to compliance with fire protection design standards, as necessary, per the California Building Code (CBC), the Los Angeles Municipal Code (LAMC), and the LAFD, to ensure adequate fire protection. Furthermore, the Project Site is located within close proximity of several LAFD fire stations including Fire Station 6 (0.95 miles), Fire Station 11 (1.1 miles), and Fire Station 13 (1.3 miles). The Los Angeles Fire Department has reviewed the proposed project and the Planning Department has confirmed with LAFD that the requirements under Fire Code are adequate to mitigate potential impacts based on unusual site, roadway, or project conditions.

The Project Site is in an area that is not located in an area of moderate or very high fire hazard and is surrounded by urban development and is not adjacent to any wildlands. Therefore, Program EIR MM 4.12-1(c) *Hillside Fire/Vegetation Management Plan* would not be applicable to the Project.

Program EIR MM 4.12-1(b) *Emergency Access* would not be applicable to the Project. Program EIR Mitigation Measure 4.12-1(b) requires that if road closures during construction are necessary, prior to the issuance of a building permit for the discretionary project, a detailed Construction Management Plan including street closure information, a detour plan, haul routes, and a staging plan, shall be prepared and submitted to the Los Angeles Fire Department and the Los Angeles Department of Transportation for review and approval.

EIR MM 4.12-1(a),(b), (c) and (d) are not applicable because although the project is over 300 units, the project will be subject to review for compliance with the Fire Code and compliance will be adequate to ensure no significant impacts. The project has no unusual site, roadway or project conditions that would require additional measures above the Fire Code requirements. Additionally, 4.12-1(c) is not applicable because the project is not in a hillside area.

Program EIR MM 4.12-2(a) *Crime Prevention Unit Consultation* is applicable to the Project. Per Program EIR Mitigation Measure 4.12-2(a), the project applicant shall consult with the Los Angeles Police Department's Crime Prevention Unit regarding the incorporation of crime prevention features appropriate for the design of the project, including applicable features in the Los Angeles Police

Department's Design Out Crime Guidelines. The Project would comply with Program EIR MM 4.12-2(a) The measures would be approved by LAPD before issuance of building permits.

Program EIR MM 4.12-2(b) *Security During Construction* would be applicable to the Project. The Project would provide private security personnel to monitor vehicle and pedestrian access to the construction areas, patrol the Project Site and install construction fencing with gated and locked entries around the perimeter of the construction site, and security lighting. Therefore, the Project would comply with Program EIR MM 12-2(b) *Security During Construction.*

Transportation

4.14-1	Construction Management Plan	☒ Yes	☐ No
4.14-2	Transportation Demand Management Program	☐ Yes	☒ No

Brief explanation:

Program EIR Mitigation Measure 4.14-2 *Transportation Demand Management Program* would not be applicable to the Project Site. A *Supplemental Transportation Assessment for the Refined 550 S. Shatto Place Project Los Angeles, California*, was prepared by Gibson Transportation Consulting, Inc, October 29, 2024 (**Appendix H-1**). As concluded in the *Supplemental Transportation Assessment,* based on the VMT Calculator population assumptions, the Project would not exceed the significance thresholds for VMT, and no mitigation measures would be required.

Project Specific MM TRAF-2 would be consistent with Program EIR 4.14-1 *Construction Management Plan* as it would provide guidance for a Construction Management Plan (CMP) with street closure information, a detour plan, and a staging plan, and would be prepared and submitted to the City for review and approval prior to commencing construction. A *Construction Traffic Management Plan was prepared* for the Project by Gibson Transportation Consulting, Inc, October 29, 2024 **(Appendix H-2).** The Construction Traffic Management Plan is consistent with Project Specific MM TRAF-2 and LADOT requirements and is required to be followed by the Applicant and any subcontractors in connection with construction of the Project and would apply during all aspects of construction.

The Construction Traffic Management Plan also incorporates Project Specific MMs TRAF-3 through MM TRAF-6 that provide additional, project specific mitigation measures to further reduce potential construction-related traffic and safety impacts to pedestrians, bicyclists, and students of Young Oak Kim Academy located near the Project Site.

It should be noted that in response to E.1 Screening Criteria i, freeway queueing, **Appendix H-1**, provides a Freeway Safety analysis. US-101 southbound off-ramps to Vermont Avenue and Silverlake Boulevard are approximately one mile from the Project Site. Based on the trip generation estimates and trip assignments, the Project would not add 25 or more peak hour trips to any freeway offramp and would be screened out from providing further freeway off-ramp queuing analysis. Therefore, the Project would not require a transportation assessment by LADOT.

Mitigation Measure		Applies to Proposed Housing Project	
Tribal Cultural Resources			
4.15-1(a)	Native American Consultation and Monitoring for Discretionary Projects	☒ Yes	☐ No
4.15-1(b)	Discovery of Potential Tribal Cultural Resources	☒ Yes	☐ No

Brief explanation:

The Project would be consistent with Program EIR MM 4.15-1(a) *Native American Consultation and Monitoring for Discretionary Projects* and Program EIR MM 4.15-1(b) Discovery of Potential Tribal Cultural Resources. An *Archaeological Resources Assessment Report* was prepared by ESA in September 2018 and an *Archaeological Resources Assessment Report-Addendum* was prepared by ESA in September 2020.

Wildfire			
4.17-1	Hillside Construction Staging and Parking Plan	☐ Yes	☒ No
4.17-3	Undergrounding of Power Lines in and Near an SRA and VHFHSZs	☐ Yes	☒ No

Brief explanation:

Program EIR MM 4.17-1 *Hillside Construction Staging and Parking Plan* and Program EIR MM 4.17-3 *Undergrounding of Power Lines in and Near an SRA and VHFHSZs* would not be applicable to the Project. The Project Site is in an urban area and is not located in an area of moderate or very high fire hazard. Additionally, the Project Site is not located in or near state responsibility areas of lands classified as very high fire hazard severity zones.

Substitute Mitigation Measures

THE APPLICANT FOR THE PROPOSED HOUSING PROJECT IS PROPOSING SUBSTITUTED MITIGATION MEASURES FOR ANY OF THE MITIGATION MEASURES THAT ARE CHECKED ABOVE

☒ Yes ☐ No

If YES, include the substituted mitigation measures below, with the necessary findings showing the mitigation measure is equal or more effective to the mitigation measures in the Mitigation Measure Program at reducing the significant impact to less than significant and no new significant impact will result from the substitution:

Any attachments or technical studies that support findings will need to be printed out and attached to the Appendix and will be included in the project file.

THE APPENDIX WILL BE FILLED OUT ☒ Yes ☐ No

Planner to fill out the Appendix page at the end of the checklist to list any substituted measures and any additional pages to support findings.

CONCLUSION

Check one of the following (Note: this may require the analysis in Section E to be completed first):

☐ <u>None</u> of the mitigation measures from the MMP are applicable to the Proposed Housing Project.

☒ <u>All</u> applicable mitigation measures (including substitute measures) will be imposed on the Proposed Housing Project through conditions of approval, or have already been incorporated into the Proposed Housing Project.

☐ <u>Not all</u> applicable mitigation measures will be imposed on the Proposed Housing Project through conditions of approval, or have already been incorporated into the Proposed Housing Project.

E. FINDING THAT SITE SPECIFIC EFFECTS FROM THE PROPOSED HOUSING PROJECT WERE ANALYZED IN THE PROGRAM EIR

E.1 Screening Criteria

The following screening questions shall be answered to evaluate whether the Proposed Housing Project has the potential for site-specific or project-specific circumstances or conditions to result in an environmental effect not examined in the Program EIR. If any of the following questions are answered 'Yes', further analysis will be required in Section E.2.

a. Do any mitigation measures from the MMP require further analysis or study?

☒ Yes ☐ No

If **Yes**, prepare any studies and conduct any analysis required by the mitigation measure, per Section E.2.

b. Does the Proposed Housing Project lack compliance with a mitigation measure (including a substitute mitigation measure) identified as applicable to the Proposed Housing Project in Section D?

☐ Yes ☒ No

If **Yes**, conduct an analysis to determine if the environmental effect was examined in the Program EIR, per Section E.2.

c. Would the Proposed Housing Project require a variance or specific plan exception to provide relief from a standard required to protect scenic resources or scenic quality in an adopted Code, Specific Plan, or overlay ordinance (e.g., the Mulholland Scenic Parkway Specific Plan, the San Gabriel/Verdugo Mountains Scenic Preservation Specific Plan)?

☐ Yes ☒ No

If **Yes**, conduct an analysis of Aesthetic Threshold 4.1-1 and 4.1-2 to determine if the Proposed Housing Project will have an effect that was not examined in the Program EIR, per Section E.2.

d. Would the Proposed Housing Project involve the modification or destruction of a scenic resource or obstruction of public view of a scenic resource?

☐ Yes ☒ No

If **Yes**, conduct an analysis of Aesthetic Threshold 4.1-1 and 4.1-2 to determine if the Proposed Housing Project will have an effect that was not examined in the Program EIR, per Section E.2.

e. Would the Proposed Housing Project involve rezoning agriculturally zoned land?

☐ Yes ☒ No

If **Yes**, conduct an analysis of Agricultural Threshold 2 to determine if the Proposed Housing Project will have an effect that was not examined in the Program EIR, per Section E.2.

f. Would the Proposed Housing Project be within 50 feet of a fault delineated on the Alquist-Priolo Earthquake Fault Zoning Map?

☐ Yes ☒ No

If **Yes**, conduct an analysis of Geology Threshold 1a to determine if the Proposed Housing Project will have an effect that was not examined in the Program EIR, per Section E.2.

g. Would the Proposed Housing Project result in significant impacts to VMT using the thresholds and methodology provided in the LADOT Transportation Assessment Guidelines?

☐ Yes ☒ No

If **Yes**, conduct an analysis of VMT to determine if the Proposed Housing Project will have an effect that was not examined in the Program EIR, per Section E.2.

h. Would the Proposed Housing Project have peculiar or unique project or site characteristics from those analyzed in the Program EIR that could result in an effect not examined in the Program EIR (e.g., projects that conflict with an adopted Airport Land Use Plan or Water Quality Management Plan, or sites in use for mineral resource recovery (does not include oil and gas), projects involving septic tanks)?

☐ Yes ☒ No

If **Yes**, conduct an analysis to determine if the Proposed Housing Project will have an effect that was not examined in the Program EIR, per Section E.2.

i. Is the project located within one mile of a freeway offramp and does it require a transportation assessment by the Los Angeles Department of Transportation (DOT)?[3]

☐ Yes ☒ No

If **Yes**, conduct an analysis of freeway queueing, as required by DOT, to determine if the Proposed Housing Project will have an effect that was not examined in the Program EIR, per Section E.2.

[3] Transportation assessments are typically required if the project would both generate a net increase of 250 or more daily vehicle trips and would result in a net increase in daily VMT. DOT would also require a transportation assessment if the project is replacing an existing number of residential units with a smaller number of residential units, and the proposed project is located within one-half mile of a heavy rail, light rail, or bus rapid transit station.

CONCLUSION

After finishing review of the screening questions in Section E.1, check one of the following boxes.

☐ **ALL SCREENING QUESTIONS ARE MARKED 'NO'**
Pursuant to CEQA Guidelines Section 15168(c)(4), the environmental effects of the Proposed Housing Project were within the scope of the Program EIR. Prepare a Mitigation and Monitoring Program for the Proposed Housing Project. No further analysis is required.

☒ **ONE OR MORE SCREENING QUESTIONS ARE MARKED 'YES'**
Go to Section E.2.

E.2 Analysis to Determine if the Proposed Housing Project Would Have Effects Not Examined in the Program EIR

Instructions:

Conduct all analysis required in Section E.1 to determine if the Proposed Housing Project would have one or more environmental site- or project-specific effect(s) not examined in the Program EIR.

The following site- or project-specific effects are not effects that were examined in and within the scope of the Program EIR:

- a significant impact that would result because the Proposed Housing Project will not comply with a mitigation measure found applicable to the Proposed Housing Project from Appendix B, or will not comply with a substituted mitigation measure of equal or equivalent effectiveness (see Conclusion in Section D).
- a significant impact in an impact category found in the Program EIR to be less than significant, less than significant with mitigation, or have no impact;
- a significant impact that cannot be mitigated to less than significant with mitigation measures in Appendix B or by a substituted mitigation measure, in any of the following impact categories, which are impacts that by their nature would have impacts unique to the resource(s):
    - to a historical resource;
    - to a biological resource;
    - to an archaeological resource;
    - to a paleontological resource;
    - to tribal cultural resources;
    - related to hazardous materials; or
    - related to wildfires.

Without limitation, the following effects from a Proposed Housing Project are effects examined in and within the scope of the Program EIR:

- a significant and unavoidable impact related to criteria pollutant air quality standards from construction NOx, PM_{10} and $PM_{2.5}$ emissions;
- a significant and unavoidable impact related to criteria pollutant air quality standards from operational NOX, VOC, PM_{10}, and $PM_{2.5}$ emissions; or
- a significant and unavoidable impact (project or cumulative) related to construction and operational noise or vibration impacts.

CONCLUSION

Based on the analysis above, and the whole of the administrative record, substantial evidence supports that (check one):

☒ **THE PROPOSED HOUSING PROJECT WILL NOT HAVE EFFECTS NOT EXAMINED IN THE PROGRAM EIR.**

The Proposed Housing Project is fully within the scope of the program and its impacts were examined in the Program EIR. Prepare a Mitigation and Monitoring Program for the Proposed Housing Project for all mitigation measures identified in Subsection D and E, as applicable. Additional studies were prepared including:

Appendix A: Expanded Project Description and Applicability of Citywide Housing Element 2021-2029 and Safety Element Updates Program EIR Mitigated Measures
Appendix B: Tree Report
Appendix C: Cultural Assessment
Appendix D: Historical Resources Assessment
Appendix E: Hazards
Appendix F: Construction Noise Study
Appendix G: Air Quality Studies
Appendix H: Transportation Studies
Appendix I: Civil Report Memorandum

As discussed in greater detail in Appendix A, as the additional studies concluded, there are no effects not examined in the Program EIR. The project will be conditioned on all applicable Mitigation Measures, including substitute measures that are equal or more effective than are contained in the Program EIR. A MMP has been prepared.

☐ **THE PROPOSED HOUSING PROJECT WILL HAVE ONE OR MORE EFFECTS NOT EXAMINED IN THE PROGRAM EIR.**

A tiered negative declaration or tiered environmental impact report will be prepared for the following environmental effect(s) pursuant to CEQA Guidelines Section 15152:

Impacts to be Analyzed in Tiered CEQA Clearance:

All other effects are within the scope of the Program EIR and require no further analysis pursuant to CEQA Guideline Section 15152. The analysis provided herein shall be relied upon, in part, to support adoption of the tiered document as only being required to analyze the above listed impact(s).

APPENDIX

SUBSTITUTED AND IMPLEMENTING MITIGATION MEASURES

List any Substituted and Implementing Mitigation Measures, if any, along with any additional documents to support findings in the section below.

Air Quality

MM 4.2-2(a) Construction Emission Reduction

Per the requirements of Program EIR Mitigation Measure Program EIR Mitigation Measure 4.2-2(a) *Construction Emissions Reduction*, a Construction Air Quality Assessment was prepared by Kimley-Horn and Associates, October 2024 (Appendix G-1). As concluded in the Construction Air Quality Assessment, approval of the Project would not result in any significant effects relating to construction air pollutant concentrations.

The following Project specific Mitigation Measures is substituted for Program EIR MM 4.2-2(a), *Construction Emissions Reduction*. Project-specific MM AIR-1 is consistent with the requirements of Program EIR MM 4.2-2(a), *Construction Emissions Reduction* and provides project-specific measures that are equal to Program EIR MM 4.2-2(a), *Construction Emissions Reduction* and no new significant impact would result.

MM AIR-1: Construction equipment operating at the Project Site shall be subject to a number of requirements. These requirements shall be included in applicable bid documents and successful contractor(s) must demonstrate the ability to supply such equipment. Construction measures would include, but are not limited to the following:

- Prior to the issuance of a grading or building permit for each phase, an inventory of off-road heavy-duty construction equipment for that phase of construction, equal to or greater than 50 horsepower that will be used an aggregate of 40 or more hours, shall be provided to the Department of Building and Safety and the Department of City Planning. The inventory shall include the horsepower rating, engine production year, and certification of the specified Tier standard. A copy of each unit's certified tier specification or model year specification and California Air Resources Board or South Coast Air Quality Management District operating permit (if applicable) shall be available upon request at the time of mobilization of each applicable unit of equipment.

- Off-road diesel-powered equipment within the construction inventory shall meet the Tier 4 final off-road emissions standards within the Los Angeles region. Such equipment shall be outfitted with Best Available Control Technology (BACT) devices including a California Air Resources Board certified Level 3 Diesel Particulate Filter or equivalent;

- All cranes and welders shall be electric-powered;

- Forklifts shall be natural gas-powered;

- The Project shall utilize low-VOC coatings where commercially available during construction activities to avoid excessive VOC emissions; and

- Trucks and other vehicles in loading and unloading queues shall be parked with engines off to reduce vehicle emissions during construction activities.

Cultural Resources

MM.4-1(b) Rehabilitation of Historical Resources

Program EIR MM.4-1(b) *Rehabilitation of Historical Resources* would be implemented by Project Specific MM CULT-1 that would ensure that the Project would not result in significant impacts to historical resources. Project Specific MM CULT-1 would also implement the requirements of Program EIR MM *4.4-1(c) Design Requirements for New Construction***.**

MM CULT-1: To ensure the retention and appropriate treatment and rehabilitation of all the identified character-defining features of the former church building, that would be retained as part of the Project, a preservation architect or preservation professional would be retained to monitor the appropriate treatment and rehabilitation of the former church building during construction.

Hazards

Program EIR MM 4.7-2a, *Environmental Site Assessment* and 4.7-2b, *Site Remediation and Health and Safety Plan* would be applicable to the Project. To satisfy Program EIR MM 4.7-2a, *Environmental Site Assessment*, several reports including Phase I ESA and a Subsurface Investigation Report were prepared to evaluate the presence of known or suspected hazardous materials or waste at the Project Site.

Project Specific MM HAZ-1, MM HAZ-2, MM HAZ-3, and MM HAZ-4 provides project-specific measures that would substitute Program EIR MM 4.7-2a, *Environmental Site Assessment* and 4.7-2b, *Site Remediation and Health and Safety Plan* at reducing impacts to less than significant and no new significant impact would result.

MM HAZ-1: In lieu of a dewatering and vent piping system, to attenuate methane risks, the Modified Project shall include design components, such as sloping to the bottom of the mat slab one percent and an active methane detection system tied into the mechanical system. These features, along with a waterproofing/methane membrane, would allow potential methane and vapor to move outside the building limits and eliminate any methane impact. The structural mat slab and subterranean walls would be designed hydrostatically. As part of the alternative design components, LADBS would be consulted as part of the design process of the Modified Project to ensure risks associated with methane would be minimized and to confirm whether a Project Site-specific methane gas mitigation system would be required based on the detected concentrations and the planned construction design.

MM HAZ-1: A Site-Specific Soil Mitigation Plan (SMP) will be prepared that will provide guidance to contractors for appropriate handling, screening, and management of potentially impacted or impacted soils that may be encountered at the Project Site during grading and excavation activities. These procedures will include training for construction personnel on the appropriate procedures for identification of suspected impacted soils; requirements for testing and collection of potentially contaminated soils; segregation of potentially impacted soils; and applicable soil handling and disposal procedures.

The SMP will also include procedures for handling and transportation of soils with respect to nearby sensitive receptors, such as nearby residential uses and schools. In accordance with SCAQMD Rule 1166 requirements, impacted soil removed from the Project Site must comply with the following:

- Be transported to an approved treatment/disposal facility.
- When loading into trucks is completed, and during transportation, no excavated material will extend above the sides or rear of the truck or trailer.
- Prior to covering/tarping, loaded impacted soil must be wetted by spraying with dust inhibitors.
- The trucks or trailers must be completely covered/tarped prior to leaving the Project Site to prevent particulate emissions to the atmosphere.
- The exterior of the trucks (including the tires) must be cleaned off prior to the trucks leaving the excavation location and leaving the disposal site before returning to the Project Site.

MM HAZ-2: A Groundwater Management Plan (GWMP) will be prepared that includes training and protocol procedures to contractors for avoiding contact with groundwater during excavation and construction of the Project and appropriate disposal protocols of contaminated groundwater. The GWMP will include a requirement for development and implementation of a safety plan to be prepared prior to commencement of construction consistent with Occupational Safety and Health Administration (OSHA) Safety and Health Standards 29 CFR 1910.120 as well as management of groundwater produced through temporary dewatering activities. The safety plan will include necessary training, operating and emergency response procedures, and reporting requirements to regulate all activities that bring workers in contact with potentially contaminated groundwater. In the unlikely event that groundwater contamination occurs, the GWMP will include remedial efforts that may include batch extraction of groundwater using an on-site dewatering system or application of a chemical amendment, such as oxygen or hydrogen source depending on the type of contamination impact. Groundwater attenuation features may include the following: waterproofing the entire subgrade area; use of waterproofing that is compatible with constituents of concern; and sealing of electrical conduits, piping, etc. to close off preferential pathways.

In addition, the Project would include additional adequate design measures to mitigate potential groundwater infiltration from the subsurface. Potential design measures could include waterproofing the entire subgrade area, use of waterproofing compatible with Project Site-specific constituents of concern, and sealing electronic conduits, piping, etc. to prevent water from accessing preferential pathways.

MM HAZ-3: All concrete cuts and utility penetrations into the building pad(s) or concrete slab(s) that underlie the former church building that may occur during the remodeling/repurposing of the existing school building will be sealed via a vapor-barrier type wrap to add an additional measure of protection against potential vapor intrusion. An environmental professional would be on-site to monitor the sealing process. A pathway assessment/visual monitoring of the sealing of penetration shall be conducted after construction and the use of a vapor-barrier wrap is recommended.

Noise

Project Specific MM NOISE-1, MM NOISE-2 and MM NOISE-3 are consistent with the requirements of Program EIR MMs 4.10-1(a) through 4.10-1(e) and would be substituted as they provide more specific performance standards. Project-specific mitigation measures would reduce impacts to less than significant and no new significant impact would result.

Per the requirements of Program EIR MM 4.10-1(f) *Project-Specific Construction Noise Study*, a Construction Noise Study was prepared by Kimley-Horn and Associates, October 2024 **(Appendix F).** As determined in the Construction Noise Study, the Project would not result in any significant effects relating to on-site construction or off-site construction traffic noise. Project construction noise would not exceed the City's Noise and Vibration Thresholds Update significance criterion of 80 dBA Leq and would incorporate Project Specific MM NOISE -1 through MM NOISE-7 and no new significant impact would result.

The requirements of Program EIR MM 4.4-1(j) *Structural Construction Monitoring* would be implemented as part of the shoring plan provided under Project Specific Mitigation Measure NOISE-8, and no new significant impact would result.

Program EIR MM 4.10-3(a), *Vibration Control Plan* and Program EIR MM 4.10-3(b) *Vibration Mitigation* would be applicable to the Project and would be substituted by Project Specific Mitigation Measures NOISE -8, NOISE -9, and NOISE-10 and no new significant impact would result. While the Project would not require the use of pile drivers, Project Specific Mitigation Measures NOISE-8, NOISE-9, and NOISE-10 would implement construction vibration reduction strategies, development of a vibration monitoring program, and a shoring plan, respectively, to ensure the protection of the on-site former church building as well as the potential historic resources adjacent to the Project site during construction.

MM NOISE-1: The Project shall limit construction and demolition to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturdays or holidays (City observed).

MM NOISE-2: The Project will not require or allow the use of impact pile drivers.

MM NOISE-3: The Project will not allow any delivery truck idling for more than 5 consecutive minutes in the loading area pursuant to State regulation (Title 13 California Code of Regulations, Section 2485). Signs will be posted in delivery loading areas specifying this idling restriction.

MM NOISE-4: The Project will not require or allow operation of any amplified sound system in the outdoor areas except for downward or inward facing speakers playing background music that will be confined to the outside ground-level dining patio areas.

MM NOISE-5 The Project shall implement construction noise reduction strategies to reduce noise levels from construction affecting the noise-sensitive residential receptors located to the east of the Project Site, with a performance standard of achieving a construction noise level of less than 80 dBA Leq at the noise-sensitive residential receptors adjacent to the east of the Project Site and the university and church use directly to the north of the Project Site. The noise reduction strategies shall include one or a combination of the following to achieve the performance standard.

- Use construction equipment, fixed or mobile, that individually generates less noise than presumed in the Federal Highway Administration (FHWA) Roadway Construction Noise

Model (RCNM). Examples of such equipment are medium, compact, small, or mini model versions of backhoes, cranes, excavators, loaders, or tractors; or newer model equipment; or other applicable equipment that are equipped with reduced noise-generating engines. Construction equipment noise levels shall be documented based on manufacturer's specifications. The construction contractor shall keep construction equipment noise level documentation on-site for the duration of Project construction.

- Noise-generating equipment operated at the Project Site shall be equipped with California industry standard noise control devices to effectively reduce noise levels, i.e., mufflers, lagging, and/or motor enclosures. All equipment shall be properly maintained to assure that no additional noise, due to worn or improperly maintained parts, would be generated. The reduction in noise level from noise shielding and muffling devices shall be documented based on manufacturer's specifications. The construction contractor shall keep noise shielding and muffling device documentation on-site and documentation demonstrating that the equipment has been maintained in accordance with the manufacturers' specifications on-site for the duration of Project construction.

- Construction and demolition activities shall be scheduled so as to minimize or avoid operating multiple heavy pieces of equipment such as a large dozer, concrete saw, and excavator, simultaneously at the perimeter of the Project Site along the eastern boundary of the Project Site.

- The Project shall provide temporary minimum 8-foot-tall construction noise barriers along property lines facing adjacent off-site residential buildings to the east and northeast and off-site university and church use adjacent to the north. The temporary barriers shall at a minimum remain in place during early Project construction phases (up to the start of framing) when the use of heavy equipment is prevalent. Standard construction protective fencing with green screen or pedestrian barricades for protective walkways shall be installed along property lines facing streets or commercial buildings. All temporary barriers, fences, and walls shall have gate access as needed for construction activities, deliveries, and site access by construction personnel. The Applicant shall ensure through appropriate postings and frequent visual inspections that no unauthorized materials are posted on any temporary construction barriers or temporary pedestrian walkways that are accessible/visible to the public, and that such temporary barriers and walkways are maintained in a visually attractive manner (i.e., free of trash, graffiti, peeling postings and of uniform paint color or graphic treatment) throughout the construction period The construction management company's name and telephone number(s) shall be posted at a least one location along each street frontage that borders the Project Site.

- The Project shall stage noise-generating construction equipment as far away from the noise-sensitive receptors adjacent to the east of the Project Site as practicable; minimize the number of noise-generating construction equipment in simultaneous use; and/or provide other noise-reducing techniques.

The effectiveness of the noise reduction strategies to achieve the performance standard shall be documented by on-site noise monitoring conducted by a qualified acoustical analyst using a Type 1 instrument in accordance with the American National Standards Institute (ANSI) S1.4. Noise monitoring shall be conducted during early Project construction phases when the use of heavy equipment is prevalent.

MM NOISE-6: The Applicant shall designate a construction relations officer to serve as a liaison with surrounding residents and property owners who is responsible for responding to any concerns regarding construction. The liaison's telephone number(s) shall be prominently displayed at the Project Site. Signs shall also be posted at the Project Site that include permitted construction days and hours. In addition, no less than 30 days prior to the start of construction, the Applicant shall also meet with the principal, or other designated representatives, of Young Oak Kim Academy, including the LAUSD's Transportation Branch to discuss Project construction dates, the Construction Management Plan, and provide information regarding the construction relations officer who would serve as the liaison to the community.

MM NOISE-7: Due to potential noise impacts on the schools, no construction vehicles or haul trucks shall be staged or idled on W. 6th Street between Vermont Avenue and Shatto Place and on Shatto Place between W. 6th Street and Wilshire Boulevard during school hours.

SMM NOISE-8: The Project shall implement construction vibration reduction strategies to reduce vibration levels from construction affecting vibration-sensitive receptors on the Project Site, to the east of the Project Site, and adjacent to the north of the Project Site, with a performance standard of achieving a construction vibration level of less than 0.5 inches per second PPV at the face of the on-site former church building, less than 0.3 inches per second PPV at the face of the 500 Shatto Place building, 3109 West 6th Street building and the 523 South Westmoreland Avenue building, and 72 VdB or less at occupied vibration-sensitive residential receptors adjacent to the east of the Project Site. Vibration reduction strategies shall include one or a combination of the following to achieve the performance standards.

- Use construction equipment, fixed or mobile, that individually generates less vibration than presumed in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual. Examples of such equipment are medium, compact, small, or mini model versions of bulldozers, drills, or trucks; or newer model equipment with lower vibration levels; or other applicable equipment that are equipped with reduced vibration-generating engines. Construction equipment vibration levels shall be documented based on manufacturer's specifications or other equipment or testing documentation. The construction contractor shall keep construction equipment vibration level documentation on-site for the duration of Project construction.

- Prior to obtaining a building permit, the effectiveness of the vibration reduction strategies to achieve the performance standard shall be documented in a vibration study conducted by a qualified acoustical/vibration engineer based on detailed Project plans for Plan Check.

MM NOISE-9: Prior to construction, the Applicant shall retain the services of a qualified acoustical/vibration engineer to review the proposed construction equipment and develop and implement a vibration monitoring program capable of documenting the construction-related ground vibration levels at the on-site former church building, the 500 Shatto Place building, the 3109 West 6th Street building, and the 523 South Westmoreland Avenue building.

- The Applicant and qualified acoustical/vibration engineer shall conduct a pre-construction survey that visually identifies the existing conditions of the on-site former church building, the 500 Shatto Place building, the 3109 West 6th Street building, and the 523 South Westmoreland Avenue building.

- During construction, the contractor shall install and maintain at least one continuously operational automated vibrational monitors on the on-site former church building, the 500 Shatto Place building, the 3109 West 6th Street building, and the 523 South Westmoreland Avenue building. The monitors shall be capable of being programmed with two predetermined vibratory velocities levels:

  – On-site former church building: a first-level alarm equivalent to a 0.48 inches per second PPV at the face of the on-site former church building and a regulatory alarm level equivalent to 0.5 inches per second PPV at the face of the on-site former church building.

  – 500 Shatto Place building, 3109 West 6th Street building and the 523 South Westmoreland Avenue building: a first-level alarm equivalent to a 0.28 inches per second PPV at the face of the 500 Shatto Place building, the 3109 West 6th Street building and the 523 South Westmoreland Avenue building and a regulatory alarm level equivalent to 0.3 inches per second PPV at the face of the 500 Shatto Place building, the 3109 West 6th Street building and the 523 South Westmoreland Avenue building.

- The monitoring system shall produce real-time specific alarms (for example, via text message and/or email to on-site personnel) when velocities exceed either of the predetermined levels. In the event of a first-level alarm, feasible steps to reduce vibratory levels shall be undertaken, including but not limited to halting/staggering concurrent activities and utilizing lower-vibratory techniques. In the event of an exceedance of the threshold level, the contractor shall review the construction work in the vicinity and investigate construction methods that would reduce vibration levels in the vicinity. If it is determined that the construction work is causing an exceedance of the vibration threshold level, the contractor shall also visually inspect the on-site former church building, the 500 Shatto Place building, the 3109 West 6th Street building, and the 523 South Westmoreland Avenue building for damage. Results of the inspection shall be logged. In the event damage occurs to finish materials due to construction vibration, such materials shall be repaired in consultation with a qualified preservation consultant, and if warranted, in a manner that meets the Secretary of the Interior’s Standards.

MM NOISE-10: Prior to the issuance of grading permits, the Applicant will provide a shoring plan prepared by a qualified structural engineer who meets the relevant Secretary of the Interior’s Professional Standards, for review and approval by the City of Los Angeles. The shoring plan will ensure the protection of the on-site former church building on the Project Site, as well as the potential historic resources adjacent to the Project Site at 3109 West 6th Street and 523 South Westmoreland Avenue, during construction.

Transportation

4.14-1 Construction Management Plan.

Project Specific MM TRAF-2 would substitute Program EIR 4.14-1 *Construction Management Plan.* MM TRAF-2 would provide guidance for preparation of a Construction Management Plan (CMP) that would include street closure information, a detour plan, a staging plan, and funding to Young Oak Kim Academy to provide an adequate number of crossing guards on school days to assist the safe movement of pedestrians/students and no new significant impact would result.

Project Specific MMs TRAF-3 through MM TRAF-6 provide additional, project specific mitigation measures to further reduce potential construction-related traffic and safety impacts to pedestrians, bicyclists, and students of Young Oak Kim Academy located near the Project Site. MM TRAF-1 would require the service entryway along 6th Street would be limited to right-turn in/out access, reducing potential traffic conflicts and improving safety along 6th Street. and no new significant impact would result.

MM TRAF-1: The service entryway along 6th Street would be limited to right-turn in/out access.

MM TRAF-2: The Applicant shall prepare a detailed Construction Management Plan that shall include, but not be limited to, the following elements, as appropriate:

- Requiring workers and construction trucks to generally travel outside of the peak hours;
- Prohibition of construction worker parking on nearby residential streets;
- Temporary traffic control during all construction activities encroaching on public rights-of-way to improve traffic flow and safety on public roadways;
- Scheduling of construction activities to reduce the effect on traffic flow on surrounding arterial streets;
- Funding to Young Oak Kim Academy to provide an adequate number of crossing guards on school days to assist the safe movement of pedestrians/students at the intersection of 6th Street/Shatto Place when the sidewalks may be closed near Shatto Place and 6th Street for the Project's related construction.
- Safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers as appropriate;
- Scheduling of construction-related deliveries so as to generally occur outside the commuter peak hours; and
- Installation of appropriate traffic signs around the Project Site to ensure pedestrian, bicycle, and vehicle safety.

Public Services *(Construction Activity near Schools)*

MM TRAF-3: There shall be no staging or parking of construction vehicles, including vehicles to transport workers on any of the streets adjacent to the school.

Public Services (Schools Affected by Haul Route)

MM TRAF-4: LADBS shall assign specific haul route hours of operation based upon Young Oak Kim Academy’s hours of operation.

MM TRAF-5: Haul route scheduling shall be sequenced to minimize conflicts with pedestrians, school buses and cars at the arrival and dismissal times of the school day. Haul route trucks shall not be routed past the school during periods when school is in session especially when students are arriving or departing from the campus.

MM TRAF-6: The Applicant shall plan construction and construction staging as to maintain pedestrian access on adjacent sidewalks throughout all construction phases. This requires the applicant to maintain adequate and safe pedestrian protection, including physical separation (including utilization of barriers such as K-Rails or scaffolding, etc) from workspace and vehicular traffic and overhead protection, due to sidewalk closure or blockage, at all times. Temporary pedestrian facilities shall be adjacent to the Project Site and provide safe, accessible routes that replicate as nearly as practical the most desirable characteristics of the existing facility. Covered walkways shall be provided where pedestrians are exposed to potential injury from falling objects. Applicant shall keep sidewalk open during construction until only when it is absolutely required to close or block sidewalk for construction staging. Sidewalk shall be reopened as soon as reasonably feasible taking construction and construction staging into account.

ANALYSIS

Complete, as applicable, based on Sections E.1 and E.2 above. Please attach any technical studies required and summarize the impact and the required mitigation measures and/or monitoring program for the Proposed Housing Project.

The following analysis is provided as required based on the following question from Section E.1 and E.2:

Appendices

Appendix A: Expanded Project Description, Figures, and Expanded Discussion of Program EIR MM Applicability.
Appendix B: Tree Report
Appendix C: Cultural Assessment
Appendix D: Historical Resources Assessment
Appendix E: Hazards
Appendix F: Construction Noise Study
Appendix G: Air Quality Studies
Appendix H: Transportation Studies
Appendix I: Civil Report Memorandum

Appendix A
Expanded Project Description for the 550 Shatto Place Project

The Project Site is currently occupied by the New Covenant Academy, a private school on the southern portion of the Project Site; and an approximately 27,843-square-foot four-story office building with subterranean parking on the northern portion of the Project Site. The New Covenant Academy includes a one-story (plus mezzanine) 12,800-square-foot church building which was constructed in 1936 for the First English Evangelical Lutheran Church. The "L-shaped" building is designed in the Spanish Colonial Revival architectural style and is currently used by the New Covenant Academy as a basketball court/gym, a kitchen, food hall/theatre stage, and classrooms.

Environmental Setting

The Project Site is in a highly urbanized area surrounded by a mix of land uses, including commercial, office, and residential uses as well as institutional and school facilities. To the west of the Project Site, along Shatto Place, land uses include office and commercial, surface parking, and a recently constructed eight-story parking structure, and educational uses such as Nobel University and county government uses including the Los Angeles County Department of Children and Family Services.

The Project Site is bordered to the north by an office building housing the World Mission University. Further north is West 5th Street and multi-family housing. To the east, along South Westmoreland Avenue, uses include multi-family residential, commercial and office development. To the south of the Project Site, along West 6th Street, land uses include various commercial, and office uses and related surface parking. Southwest of the Project Site is Young Oak Kim Academy, a Los Angeles Unified School District (LAUSD) middle school.

Site Background and Existing Site Conditions

The Project Site is currently occupied on the southern portion by the New Covenant Academy, a private school serving grades K-12, and on the northern portion by a four-story office building.

New Covenant Academy comprises four buildings. A one-story (plus mezzanine) 12,800-square-foot church building was constructed in 1936 for the First English Evangelical Lutheran Church. The "L-shaped" building is designed in the Spanish Colonial Revival architectural style and is currently used by the New Covenant Academy as a basketball court/gym, a kitchen, food hall/theatre stage, and classrooms. The 1936 church building on the Project Site was identified by SurveyLA, the citywide historic resources survey overseen by the City of Los Angeles' Office of Historic Resources, as appearing to be eligible through survey evaluation for listing in the National Register of Historic Places, the California Register of Historical Resources, and as a local Historic-Cultural Monument. Therefore, the church building is treated as a historical resource as defined by CEQA. Other school uses on the Project Site include a 4,105-square-foot one-story school classroom building constructed in 1953; a 2,412-square-foot, two-story classroom building constructed in 1964; restroom and storage facilities constructed in 2004 (1,760 square feet); and surface parking. These buildings were not identified as significant by SurveyLA and are not considered historical resources for purposes of CEQA per the Historic Resources Assessment (HRA), 550 Shatto Place, prepared by HRG, April 2019; 514-550 Shatto Place, Historical Technical Report Addendum, prepared by HRG, September 2020; and 550 Shatto Place Historic Memorandum, prepared by HRG, July 2024 that are contained in **Appendix D**.

Project Components

The Project involves the demolition of the four-story office building and some of the existing school structures, including a 4,105-square-foot one-story school classroom building; a 2,412-square-foot, two-story classroom building; restroom and storage facilities (1,760 square feet); canopies; and surface parking. The Project includes a new eight-story building containing 318 residential units and 234 parking spaces located on the northern portion of the Project Site. The development includes 149 studios, 138 one-bedroom units, and 31 two-bedroom units. On the southern portion of the Project Site, the existing former church building would be repurposed with 21,482 square feet of commercial.

Thirty-five (35) units (11 percent) would be restricted as affordable housing for Very Low-Income Households. The new residential building will be 96 feet in height to the top of the parapet. Overall, the Project includes approximately 262,638 square feet of building area and a floor area ratio (FAR) of 4.29:1.

Vehicular parking spaces will be located within three (3) levels of parking, one (1) at grade level and two (2) subterranean levels. The subterranean parking will be located directly below the new residential components; no subterranean parking would be located below the retrofitted former church building. Bicycle parking spaces pursuant to the Los Angeles Municipal Code (LAMC) would be provided on-site (155 long term and 16 short term spaces).

Two (2) driveways to serve the Project would be located along Shatto Place. The southern driveway would provide access to the commercial and residential parking on the ground level and the northern driveway would provide access to the residential parking on the subterranean levels. All loading would be internal to the Project Site and accessed via one of the two driveways along Shatto Place. Emergency vehicle access to the Project Site would be located east of the former church building from 6th Street. The Project would provide 24,431 square feet of credited open space which would include private balconies, a central courtyard, front, side, and rear yards and various amenities including fitness areas, lounge, and club room. Key details of the Project are listed in

Table 1 and Table 2. A regional map, aerial of the Project Site, plans, conceptual renderings and elevations of the Project are provided in **Appendix A**.

Table 1: Project Summary

Use	Project
Lot Area – (pre-dedicated)	66,411 (1.52 acres)
Number of Existing Lots	4
Height	96 square feet / 8 Stories
Floor Area By Use	
Proposed Residential Floor Area	241,156 square feet
Existing Building Converted to Commercial Uses	21,482 square feet
Total Proposed Floor Area (entire project)	262,638 square feet
Residential Units:	
Studio	149 units
One Bedroom	138 units
Two Bedroom	31 units
Total Units	**318 units**
Affordable Units	35
LAMC 12.21 G, Open Space and Amenities	
Common Open Space	12,215 square feet
Private Balconies	12,216 square feet
Total Credited Open Space	24,431 square feet
Trees	51 new trees and 8 existing trees
SOURCE: KTGY Architecture and Planning, October 24, 2024	

Table 2: Parking Summary

Parking	Project
Vehicle Parking	
Residential	194
Commercial	40
Total Vehicle Parking	**234**
Bicycle Parking	
Short Term	16
Long Term	155
Total Bicycle Parking	**171**
SOURCE: KTGY Architecture + Planning, October 24, 2024	

Commercial Uses

New restaurant uses totaling up to approximately 21,482 square feet would be located in the former church building and within an outside dining patio at the corner of Shatto Place and 6th Street. The ground-level restaurant uses would be accessible to the public from the sidewalk on Shatto Place and 6th Street.

Residential Uses

Residential uses would include approximately 241,156 square feet of floor area and up to 318 dwelling units consisting of 149 studios, 138 one-bedroom units, and 31 two-bedroom units. Of these units, 35 units (11 percent) of the total would be income restricted as affordable housing for Very Low-Income Households.

Residential units would be located on levels two through eight of the new building. The ground level of the residential building would include amenities such as the lobby/leasing areas, recreation room, work area, trash room, and long-term bicycle storage as well as parking for residential and commercial uses and mechanical equipment.

Pedestrian access to the residential uses would be from a dedicated lobby area on the ground floor of the new building accessible from Shatto Place. Adjacent to the lobby, are the Project's mailroom and residential offices.

Open Space

The Project has been designed to activate the pedestrian environment with the inclusion of a ground-level restaurant and outdoor patio, inclusion of open space, perimeter landscaping, large windows at the ground level and ground level and predominately subterranean parking that is not visible from the street. The Project would provide 24,431 square feet of open space per LAMC Section 12.21.G.

Credited open space would include private balconies, a central courtyard, front, side, and rear yards and various amenities including fitness areas, lounge, and club room. On the ground floor, outdoor open space would be located along the perimeter of the Project Site. Indoor open space would be located on the western side of the ground floor which would serve as a co-working space and wifi-lounge. On the second level of the Project, a courtyard would be located in the center of the Project Site.

Trees

A total of 25 trees were documented as part of a Tree Inventory Report (**Appendix B**) prepared for the Project. Of these trees, 13 are located within the Project Site boundary and 12 other trees are located within the City's right-of-way along Shatto Place and 6th Street. Per the Tree Inventory Report, all of the trees are non-protected trees per the City of Los Angeles Protected Tree and Shrub Ordinance.

The 13 trees within the Project Site boundaries are as follows: one African fern pine (*Afrocarpus falcatus*), four lemon-scented gum trees (*Corymbia citriodora*), two Indian laurel fig (*Ficus microcarpa*), one umbrella tree (*Heptapleurum actinophyllum*), one crape myrtle (*Lagerstroemia indica*), and four tipu trees (*Tipuana tipu*). Street trees include four Indian laurel fig (*Ficus microcarpa*), and eight queen palms (*Syagrus romanzoffiana*).

Development of the Project would result in the removal of a total of 13 trees, 11 of which are within the Project Site boundaries and two trees within the City's right-of-way. Trees to be removed on the Project Site include one African fern pine, one crape myrtle, four lemon-scented gum, four Tipu trees, and one umbrella tree. The Project Site does not contain any woodlands or sensitive natural vegetation communities. The Project would provide 51 new trees: 41 at the ground level and 10 within the interior courtyard area.

Lighting and Signage

The Project would include building identification, commercial accent lighting, wayfinding, balcony lighting, and security lighting. Pedestrian areas including pathways and entryways into the Project would be well-lit for security and will be specified with LED fixtures to illuminate all walking surfaces. Light fixtures would be shielded and directed towards the areas to be lit and away from adjacent light-sensitive residential land uses.

Building identification signage for the ground-level commercial use would be visible from Shatto Place and West 6th Street. The proposed restaurant would also include patio lighting. Building branding signage would be provided at pathways and entryways at into commercial and residential areas. Lighting would be designed in conformance with LAMC requirements and would not exceed the foot-candlelight-intensity level required at the property line of the nearest sensitive receptor.

Site Security

The Project would incorporate security measures for the safety of residents and visitors to the Project Site. During construction of the Project, the Project Site would be fenced and gated and monitored via surveillance cameras, security on-site, or security drive-by patrols depending on the progression of the construction site to monitor the site during off hours. During operation of the Project, access to the parking areas would be controlled through gated entries, and the entry areas would be well illuminated. Site security would include controlled keycard access to residential areas, parking areas, secured entry and exit points to all buildings, security lighting within common areas and entryways, and closed-circuit TV monitoring (CCTV). The residential areas would include a 24-hour concierge and security personnel would be present during the evenings that would provide patrols for the entire Project Site.

Sustainability Features

Energy saving and sustainable design would be incorporated throughout the Project. The Project would be designed to meet CALGreen and Title 24 Building Standards Code (CALGreen Code). The Project would emphasize energy and water conservation, which would be achieved through the use of energy-efficient heating, ventilation, and air conditioning (HVAC) and lighting systems, and ENERGY STAR® appliances, and low-flow plumbing fixtures.

Per Los Angeles Ordinance 186582, of the 234 parking spaces Project would include pre-wiring for electric vehicle (EV) charging spaces for 30 percent of the Project's parking capacity for future use (71 spaces), 20 percent would be EV ready (59 spaces) and 10 percent of spaces would include installed chargers for immediate use by EV (24 spaces) for a total of 154 EV spaces. The Project would provide 15 percent of the roof area (5,068 square feet) for future installation of solar power.

Construction

Construction would begin in the second Quarter 2026 and conclude in the first Quarter of 2029. No pile driving would occur. Approximately 43,849 cubic yards of soil would be exported.

Applicability of Citywide Housing Element 2021-2029 and Safety Element Updates Program EIR Mitigated Measures

Air Quality

Air Quality		
Construction Emissions Reduction	☒ **Yes**	☐ **No**
Operations Emissions Reduction	☐ **Yes**	☒ **No**
Construction TAC Reduction Measures	☐ **Yes**	☒ **No**

The Project would require demolition of 27,843 square feet and the export of approximately 43,849 cubic yards of soil. Thus, per the requirements of Program EIR Mitigation Measure Program EIR Mitigation Measure 4.2-2(a), a Construction Air Quality Assessment was prepared by Kimley-Horn and Associates, October 2024 **(Appendix G-1)**. As concluded in the Construction Air Quality Assessment, approval of the Project would not result in any significant effects relating to construction air pollutant concentrations.

The Project would implement all requirements of Program EIR Mitigation Measure 4.2-2(a) *Construction Emissions Reduction.* The Project includes the use of Tier 4 final off-road diesel-powered equipment, electric-powered cranes and welders, and natural gas-powered forklifts. The Project would also utilize low-VOC coatings where commercially available and requires that all trucks and other vehicles in loading and unloading queues to park with engines off. Other components of Program EIR Mitigation Measure 4.2-2(a) have not been included in the Project's Construction Air Quality Assessment assumptions. However, implementation is required through Mitigation Measure 4.2-2(a) and emissions would be further reduced below already less than significant levels.

The Project-specific MM AIR-1 is consistent with the requirements of Program EIR MM 4.2-2(a), *Construction Emissions Reduction* and provides project-specific measures. Therefore, the Project-specific mitigation measure is equal to Program EIR MM 4.2-2(a) at reducing impacts to less than significant and no new significant impact would result.

Per the Program EIR MM *4.2-2(b), Operations Emissions Reduction* may apply if a project meets the following identified trigger stated in the mitigation measure itself:

4.2-2(b) Operational Emissions Reduction Trigger

- 462 single-family homes or
- 612 multi-family residential; or
- the equivalent of one of the above

For mixed-use projects, an air quality analysis is required to provide the equivalent of the first two bullet points for the mixed-use project.

Kimley-Horn prepared an Operational Air Quality Assessment Memorandum to demonstrate consistency with 4.2-2(b) Operational Emissions Reduction (**Appendix G-2**). As determined in the Operational Air Quality Assessment Memorandum, the Project would not result in any significant effects related to operational air pollutant concentrations and the Project would not exceed the emissions threshold of a 612-unit multi-family, 462-unit single-family or equivalent operational emissions reduction trigger. Therefore, Mitigation Measure 4.2-2(b) is not applicable to the Project.

Program EIR MM 4.2-3, *Construction TAC Reduction Measures* is not applicable to the Project, as per Project Specific MM AIR-1, the Project is requiring off-road diesel-powered construction equipment to meet the Tier 4 final off-road emissions standards. Therefore, Mitigation Measure 4.2-3 is not applicable to the Project.

Biological Resources

Biological Resources		
Biological Resources Reconnaissance Survey and Reporting	☐ **Yes**	☒ **No**
Sensitive Species/Habitat Avoidance: Pre-Construction Bird Nest Surveys, Avoidance, and Notification	☐ **Yes**	☒ **No**
Focused Surveys for Rare Plants	☐ **Yes**	☒ **No**
Adaptive Management Plan	☐ **Yes**	☒ **No**
Habitat Mitigation and Monitoring Plan	☐ **Yes**	☒ **No**
Protected Tree and Tree Canopy Survey	☒ **Yes**	☐ **No**

Brief explanation:

The Project Site lacks native and critical habitat and is fully surrounded by residential, office, commercial, and institutional uses. Program EIR MMs 4.3-1(a) *Biological Resources Reconnaissance Survey and Reporting*, 4.3-1(c) *Focused Surveys for Rare Plants,* 4.3-1(d) *Adaptive Management Plan* and 4.3-2(a) *Habitat Mitigation and Monitoring Plan* would not be applicable.

The Project would not be applicable to Program EIR MM 4.3-1(b) *Sensitive Species/Habitat Avoidance: Pre-Construction Bird Nest Surveys, Avoidance, and Notification* as no sensitive species are likely on the Project Site as it lacks native and critical habitat. The Project would complete with the Federal Migratory Bird Treaty Act (MBTA) of 1918 (50 C.F.R Section 10.13), and by Sections 3503, 3503.5 and 3513 of the California Fish and Game Code, which prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA). The Department of City Planning enforces the MBTA and state protections through precautionary and preventative measures to avoid or reduce the potential for disturbances to wildlife during construction. The Project would be required to comply with all applicable laws and regulations to ensure that no significant impacts to nesting birds would occur due to the Project's removal of the existing street trees.

Program EIR MM 4.3-2 (b), *Protected Tree and Tree Canopy Survey* would be applicable. Program EIR MM 4.3-2 (b) which among other measures, requires a tree report and tree replanting plan to be prepared by a certified arborist.

The Project would comply with Program EIR MM 4.3-2 (b). A Tree Inventory Report was prepared for the Project Site by Psomas on April 24, 2024, and is contained in **Appendix B**. As noted in the Tree Inventory Report, there are 13 trees located within the Project Site boundary and 12 other trees are located within the City's right-of-way along Shatto Place and 6th Street. All of the trees are non-protected trees per the City of Los Angeles

Protected Tree and Shrub Ordinance. Development of the Project would result in the removal of a total of 13 trees, 11 of which are within the Project Site boundaries and two trees within the City's right-of-way. The Project would provide 51 new trees: 41 at the ground level and 10 within the interior courtyard area providing an additional 24 trees on the Project Site compared to existing conditions. The Tree Inventory Report shall be provided to the City for review.

Cultural Resources

Cultural Resources		
Identification of Built-Environment Historical Resources	☒ **Yes**	☐ **No**
Rehabilitation of Historical Resources	☐ **Yes**	☒ **No**
Design Requirements for New Construction	☐ **Yes**	☒ **No**
Relocation and Rehabilitation of Historical Resources	☐ **Yes**	☒ **No**
Historic American Building Survey Documentation	☐ **Yes**	☒ **No**
Interpretive Program	☐ **Yes**	☒ **No**
Construction Monitoring, Salvage, and Reuse	☐ **Yes**	☒ **No**
Temporary Protective Relocation	☐ **Yes**	☒ **No**
Excavation and Shoring Plan	☒ **Yes**	☐ **No**
Structural Construction Monitoring	☒ **Yes**	☐ **No**
Archaeological Resources	☒ **Yes**	☐ **No**

A Historic Resources Assessment (HRA) for the Project was prepared by HRG on April 2019. Subsequently, a Historical Technical Report Addendum was prepared by HRG on September 2020 and a Historic Memorandum was prepared by HRG on July 2024 (**Appendix D**). As noted in these documents, the 1936 former church building on the Project Site was identified by SurveyLA, as appearing to be eligible through survey evaluation for listing in the National Register of Historic Places, the California Register of Historical Resources, and as a local Historic-Cultural Monument. It was documented under the context "Architecture and Engineering, 1850–1980," and the theme "Mediterranean and Indigenous Revival Architecture, 1887–1952" as an excellent example of Spanish Colonial Revival institutional architecture. Therefore, the church building was evaluated as a historical resource as defined by CEQA. Two mid-century Modern buildings (constructed in 1953 and 1964) and the office building at 514 S. Shatto Place (constructed in 1962) on the Project Site were not identified as significant historical resources for purposes of CEQA.

Program EIR MM.4-1(b) *Rehabilitation of Historical Resources* would not be applicable to the Project as HRA, the HRA Addendum and the Historic Memorandum determined that the proposed alterations to the historic church building at 550 Shatto Place would not result in significant adverse impacts such that the church would no longer convey its historic significance. Project Specific MM CULT-1 would ensure that the Project would not result in significant impacts to historical resources. Project Specific MM CULT-1 would also satisfy the requirements of Program EIR MM *4.4-1(c) Design Requirements for New Construction*.

Program EIR MM 4.4-1(d) Relocation and Rehabilitation of Historical Resources and Program EIR MM 4.4-1(g) Construction Monitoring, Salvage, and Reuse would not be applicable as the Project is retaining the historic church building at 550 Shatto Place.

Program EIR MM 4.4-1(e) Historic American Building Survey Documentation and Program EIR MM 4.4-1(f) Interpretive Program would not be applicable. As noted above, the Project would not result in significant adverse impacts to historical resources. Program EIR MM 4.4-1(h) Temporary Protective Relocation would not be applicable as the Project would retain the historic church building at 550 Shatto Place, protect it in place, and adapt it for new use.

Program EIR MM 4.4-1(a), Identification of Built-Environment Historical Resources, Program EIR MM 4.4-1(i) Excavation and Shoring Plan, and Program EIR MM 4.4-1(j) Structural Construction Monitoring would be applicable to the Project.

The HRA, the HRA Addendum and the Historic Memorandum all satisfy Program EIR MM 4.4-1(a) *Identification of Built-Environment Historical Resources*. These documents were prepared by HRG staff including an architectural historian and historic architect who meet the Secretary of the Interior's Professional Qualifications Standards in their respective fields. SurveyLA results were consulted, and intensive-level evaluations were conducted in accordance with State Office of Historic Preservation (OHP) and City of Los Angeles Office of Historic Resources (OHR) guidelines and were submitted to OHR for review and concurrence.

As concluded in the HRA, the HRA Addendum and the Historic Memorandum, the Project would alter the church building's integrity of setting but would not impact its integrity of location, design, materials, workmanship, or feeling. The church building will not be materially impaired by the new construction because its physical characteristics will continue to convey its historic significance, and it will remain eligible for historic designation as identified by SurveyLA.

As concluded in the HRA, the HRA Addendum and the Historic Memorandum, with recommended Project Specific Mitigation Measures (MMs NOISE-8, MM NOISE-9, and MM NOISE-10) listed below under Noise, would protect the structural integrity of the existing church building at 550 S. Shatto Place during excavation and construction processes, and the Project would not result in significant impacts to historical resources located on the Project Site.

Program EIR MM 4.4-1(i), *Excavation and Shoring Plan* would be satisfied by Project Specific Mitigation Measure NOISE-10 which states that prior to the issuance of grading permits, the Applicant will provide a shoring plan prepared by a qualified structural engineer who meets the relevant Secretary of the Interior's Professional Standards, for review and approval by the City of Los Angeles. The shoring plan will ensure the protection of the 1936 church building on the Project Site, as well as the potential historical resources adjacent to the Project Site at 3109 W. 6th Street and 523 S. Westmoreland Avenue, during construction.

The requirements of Program EIR MM 4.4-1(j) *Structural Construction Monitoring* would also be satisfied as part of the shoring plan provided under Project Specific Mitigation Measure NOISE-10.

Therefore, the Project complies with the Program EIR MMs regarding Historic Resource. With implementation of Project Specific Mitigation Measures, the Project would result in less than significant impacts.

Program EIR MM 4.4-2 *Archaeological Resources* would be applicable to the Project as the Project involves ground disturbance. Program EIR MM 4.4-2 requires a cultural resources assessment to be prepared for discretionary projects that involve ground disturbance in native soils or soils of unknown origin. An Archaeological Resources Assessment Report was prepared by ESA in September 2018 and an Archaeological Resources Assessment Report-Addendum was prepared by ESA in September 2020 (**Appendix C**). According to both archaeological reports, there were no known archaeological resources identified within the Project Site.

The Project Site was identified as having a moderate to high potential for encountering buried historic period archaeological resources. Per the provision of Program EIR MM 4.4-2 *Archaeological Resources,* the Project would implement applicable impact reduction techniques to reduce substantial adverse effects associated with the inadvertent discovery of archaeological resources.

Geology and Soils

Geology and Soils		
Paleontological Procedures for Discretionary Projects	☒ **Yes**	☐ **No**
Worker Environmental Awareness Program, Fossil Salvage, and Construction Monitoring	☒ **Yes**	☐ **No**
Construction Monitoring	☒ **Yes**	☐ **No**
Fossil Discovery, Salvage, and Treatment	☒ **Yes**	☐ **No**

Program EIR MM 4.5-1(a) *Paleontological Procedures for Discretionary Projects,* 4.5-1(b) *Worker Environmental Awareness Program, Fossil Salvage, and Construction Monitoring,* 4.5-1(c) *Construction Monitoring* and 4.5-1(d) *Fossil Discovery, Salvage, and Treatment* would apply to the Project.

A Paleontological Resources Assessment Report was prepared by ESA in December 2018 and an updated *Paleontological Assessment Report-Addendum,* was prepared by

ESA in September 2020 (**Appendix C**). According to both reports, based on the paleontological records search, Project-related excavation below 5 feet below ground surface (bgs) has the potential to encounter geologic units with high paleontological sensitivity (Pleistocene-age Older Quaternary alluvium and late Miocene-age Modelo/Puente Formation). Older Quaternary alluvium is known to be present within the Project Site at depths of approximately 5 to 30 feet bgs. The Modelo/Puente Formation is known to be present within the Project Site at depths of approximately 30 to 67 feet bgs. Since Project-related excavation is expected to extend to approximately 35 feet below existing surface, it could encounter paleontological resources below 5 feet and result in a potentially significant impact to paleontological resources. The *Paleontological Resources Assessment Report* recommended retention of a Qualified Paleontologist to provide technical and compliance oversight of excavation and grading during construction, recovery of fossil materials, and reporting, related to paleontological resources, construction worker paleontological resources sensitivity training and paleontological resources monitoring. The Project would implement and be consistent with, the requirements of Program EIR MM 4.5-1(a) *Paleontological Procedures for Discretionary Projects,* 4.5-1(b) *Worker Environmental Awareness Program, Fossil Salvage, and Construction Monitoring,* 4.5-1(c) *Construction Monitoring* and 4.5-1(d) *Fossil Discovery, Salvage, and Treatment* any potentially significant impacts to *Paleontological* resources are reduced to a less than significant level.

Hazards and Hazardous Materials

Hazards and Hazardous Materials		
Environmental Site Assessment	☒ **Yes**	☐ **No**
Site Remediation and Health and Safety Plan	☒ **Yes**	☐ **No**

An updated Memorandum (2024 Mitigation Monitoring Program Addendum, prepared by AEI Consultants March 15, 2024) was prepared to document any changes to the planned construction and assess whether the *2020 Updated Mitigation Monitoring Program Addendum* dated July 11, 2020, remains adequate for this Project (**Appendix E**).

Program EIR MM 4.7-2a, *Environmental Site Assessment* and 4.7-2b, *Site Remediation and Health and Safety Plan* would be applicable to the Project. Several reports were prepared to evaluate the presence of known or suspected hazardous materials or waste at the Project Site. These reports include:

- A *Phase I Environmental Site Assessment*, prepared by AEI, dated December 5, 2017 (Phase I ESA).
- *Subsurface Investigation Report, 3119 West 6th Street, Los Angeles, California* (Subsurface Investigation Report) was prepared by Hazard Management Consulting (HMC), dated September 20th, 2018.
- *Mitigation Monitoring Program Addendum* was prepared by AEI on June 11, 2020.
- *Methane Mitigation System Design Intent* at 514-550 S. Shatto Place, Los Angeles, CA 90020 (Methane Mitigation System Memorandum) was prepared by Methane Specialists, on October 16, 2020.
- A *2024 Mitigation Monitoring Program Addendum (MMP Addendum)* was prepared by AEI Consultants on March 13, 2024 to document any changes to the planned construction and assess whether the MMP Addendum remains adequate for the Project.

According to the regulatory database review conducted as part of the Phase I ESA, the Project Site has not been identified as a Recognized Environmental Condition (REC). The Phase I ESA Project identified a site located at 3151 West 6th Street, formerly used as a service station, located approximately 130 feet west of the Project Site as a REC. Based on a review of groundwater data from these wells, elevated concentrations of contaminants of concern were present including benzene and total petroleum hydrocarbons. Based on the relative proximity of the plume to the Project Site, it has the potential to impact the Project Site, which constitutes a REC.

As such, a Subsurface Investigation Report was prepared that included the collection of soil, soil gas, and groundwater samples throughout the Project Site. The results of the laboratory analysis of the soil samples verified these field observations, finding no detectable concentrations of gasoline range petroleum hydrocarbons (TPH cc) and no detectable to low concentrations of volatile organic compounds (VOCs) and Title 22 metals. However, soils encountered at depths greater than approximately 20 feet bgs in the southern portion of the Project Site indicated a strong petroleum hydrocarbon odor and readings of greater than 50 parts per million (ppm) of VOCs. Therefore, MM HAZ-2 was included, which requires the Project to comply with the South Coast Air Quality Management District's (SCAQMD) Rule 116 and the preparation of a Site Specific Soil Mitigation Plan (SMP). MM HAZ-3 would require a Groundwater Management Plan (GWMP) that would ensure that construction of Project would result in less than significant impacts related to potentially contaminated groundwater. In addition, the Project would include additional adequate design measures to mitigate potential groundwater infiltration from the subsurface.

On July 20, 2018, indoor air samples were collected within multiple existing buildings at the Project Site, including the existing classrooms and former church building to determine whether a health risk is present to future occupants due to vapor intrusion. The testing determined there is a low likelihood of a health risk to future employees and visitors to the proposed restaurant uses on the Project Site as a result of vapor intrusion. However, Project Specific MM HAZ-4 would reduce any potential health risks related to vapor intrusion associated with the Project's repurposing of the former church building. MM HAZ-4 requires that all concrete cuts and utility penetrations into the former church building's foundation/slab that may occur due to the installation of subsurface piping for future water, sewer and other utilities be sealed to add an additional measure of protection against potential vapor intrusion. In addition, an environmental professional would be on-site to monitor the sealing process. A pathway assessment/visual monitoring of the sealing of penetration would also be conducted after construction and the use of a vapor-barrier wrap is recommended.

Project Specific MM HAZ-1 requires that in lieu of a dewatering and vent piping system that the City of Los Angeles Methane Ordinance typically requires, the Project could include alternative design components that would eliminate any risks associated with methane. The Project would confirm whether a Project Site-specific methane gas mitigation system would be required based on the detected concentrations and the planned construction design.

As Project Specific MM HAZ-1, MM HAZ-1, MM HAZ-2, and MM HAZ-3 provide more specific and stringent standards than Program EIR MM 4.7-2a *Environmental Site Assessment*, and 4.7-2b *Site Remediation and Health and Safety Plan,* Project Specific MM HAZ-1, MM HAZ-1, MM HAZ-2, and MM HAZ-3 would apply.

Hydrology and Water Quality

Hydrology and Water Quality		
Drainage Pattern Alterations and Flood Control	☐ Yes	☒ No

Program EIR MM 4.8-1 Drainage Pattern Alterations and Flood Control would not apply to the Project as the Project would not impede or redirect flood flows with compliance with existing regulations and regulatory compliance measures (RCMS).

The Project would be designed to comply with the City of Los Angeles Low Impact Development (LID) design standards. Based on the Geotechnical Report provided by Geotechnologies, Inc., dated January 24, 2019, groundwater was encountered, and infiltration is not feasible. A Civil Report Memorandum (**Appendix I**) was prepared for the Project that included an approved Sewer Capacity Availability Request (SCAR) received from the Bureau of Sanitation and a Fire Service Pressure Flow report (SAR) from the Los Angeles Department of Water and Power. As indicated in the Civil Report Memorandum, the Project would be designed to comply with the City of Los Angeles LID design standards. Specifically, the Project would implement several stormwater treatment options, such as a bio-filtration flow through planter system and a rainwater harvesting system. The required BMPs, such as a bio-filtration flow through planter system or a rainwater harvesting system, shall be sized to collect the 85th percentile storm runoff volume based on Bureau of Sanitation Low Impact Development Standards. The rainwater harvesting system would be connected to the buildings' irrigation system so that collected stormwater runoff would be re-used. The system is designed to capture runoff, store it within its chambers, and re-use it for irrigation.

Noise

Noise		
Noise Shielding and Silencing	☒ **Yes**	☐ **No**
Use of Driven Pile Systems	☐ **Yes**	☒ **No**
Enclosures and Screening	☒ **Yes**	☐ **No**
Construction Staging Areas	☒ **Yes**	☐ **No**
Temporary Sound Barriers	☒ **Yes**	☐ **No**
Project-Specific Construction Noise Study	☒ **Yes**	☐ **No**
Project-Specific Operational Noise Study	☐ **Yes**	☒ **No**
Vibration Control Plan	☒ **Yes**	☐ **No**
Vibration Mitigation	☒ **Yes**	☐ **No**

The Project would be consistent with Program EIR MMs 4.10-1(a) *Noise Shielding and Silencing,* 4.10-1(c), *Enclosures and Screening,* 4.10-1(d), *Construction Staging Areas,* 4.10-1(e), *Temporary Sound Barriers,* 4.10-1(f) *Project-Specific Construction Noise Study*. Program EIR Mitigation Measure 4.10-1(b) *Use of Driven Pile Systems* would not be applicable to the Project as no pile driving would occur. Program EIR MM 4.10-2 *Project-Specific Operational Noise Study* would not be applicable to the Project as the Project does not include a roof or pool deck.

Pursuant to Program EIR MM 4.10-1(f), a Construction Noise Study quantifying construction noise levels at noise-sensitive uses and identifying noise reduction techniques is required for discretionary projects located within 500 feet of noise-sensitive land uses and that meet one or more of the following characteristics:

- Two or more subterranean levels or 20,000 cubic yards or more of excavated material;
- Construction duration (excluding architectural coatings) of 18 months or more;
- Use of large, heavy-duty equipment rate 300 horsepower or greater; or
- The potential for impact pile driving.

The Project would require the export of approximately 43,849 cubic yards of excavated material, construction duration of greater than 18 months, and the use of construction equipment greater than 300 horsepower. Thus, per the requirements of Program EIR MM 4.10-1(f) *Project-Specific Construction Noise Study*, a Construction Noise Study was prepared by Kimley-Horn and Associates, October 2024 **(Appendix F).**

As determined in the Construction Noise Study, the Project would not result in any significant effects relating to on-site construction or off-site construction traffic noise.

Project construction noise would not exceed the City's Noise and Vibration Thresholds Update significance criterion of 80 dBA Leq and would incorporate Project Specific MM NOISE -1 through MM NOISE-7.

Regarding operational noise, Program EIR MM 4.10-2, *Project-Specific Operational Noise Study would* not be applicable to the Project as the Project does not include a roof or pool deck. Per Public Resources Code § 21085 for residential projects, the effects of noise generated by project occupants and their guests on human beings is not a significant effect on the environment.

Program EIR MM 4.10-3(a), Vibration Control Plan and Program EIR MM 4.10-3(b) Vibration Mitigation would be applicable to the Project and would be satisfied by Project Specific Mitigation Measures NOISE-8, NOISE-9, and NOISE-10. While the Project would not require the use of pile drivers, Project Specific Mitigation Measures NOISE-8, NOISE-9, and NOISE-10 would implement construction vibration reduction strategies, development of a vibration monitoring program, and a shoring plan, respectively, to ensure the protection of the on-site former church building as well as the potential historic resources adjacent to the Project site during construction.

Public Services

Public Services		
4.12-1(a) Design Plans Review	☐ **Yes**	☒ **No**
4.12-1(b) Emergency Access	☐ **Yes**	☒ **No**
4.12-1(c) Hillside Fire/Vegetation Management Plan	☐ **Yes**	☒ **No**
4.12-1(d) Submittal of Plot Plan	☐ **Yes**	☒ **No**
4.12-2(a) Crime Prevention Unit Consultation	☒ **Yes**	☐ **No**
4.12-2(b) Security During Construction	☒ **Yes**	☐ **No**

Program EIR MM 4.12-1(a) *Design Plans Review* and Program EIR MM 4.12-1(d) *Submittal of Plot Plan* would not be applicable to the Project. The Project Site is located in an urban infill area and would be subject to compliance with fire protection design standards, as necessary, per the California Building Code (CBC), the Los Angeles Municipal Code (LAMC), and the LAFD, to ensure adequate fire protection. The Project Site is located in an urban infill area and would be subject to compliance with fire protection design standards, as necessary, per the California Building Code (CBC), the Los Angeles Municipal Code (LAMC), and the LAFD, to ensure adequate fire protection. Furthermore, the Project Site is located within close proximity of several LAFD fire stations including Fire Station 6 (0.95 miles), Fire Station 11 (1.1 miles), and Fire Station 13 (1.3 miles). The City of Los Angeles Planning Department met with LAFD and LAFD confirmed the submittal of a plot plan for approval by the LAFD is not required.

The Project Site remains in an area that is not located in an area of moderate or very high fire hazard and is surrounded by urban development and is not adjacent to any wildlands. Therefore, Program EIR MM 4.12-1(c) *Hillside Fire/Vegetation Management Plan* would not be appliable to the Project.

Program EIR MM 4.12-1(b) *Emergency Access* would not be applicable to the Project. Program EIR Mitigation Measure 4.12-1(b) requires that if road closures during construction are necessary, prior to the issuance of a building permit for the discretionary project, a detailed Construction Management Plan including street closure information, a detour plan, haul routes, and a staging plan, shall be prepared and submitted to the Los Angeles Fire Department and the Los Angeles Department of Transportation for review and approval. The Project has prepared a Construction Management Plan and would be consistent with this Program EIR Mitigation Measure.

EIR MM 4.12-1(a),(b), (c) and (d) are not applicable because although the project is over 300 units, the project will be subject to review for compliance with the Fire Code and compliance will be adequate to ensure no significant impacts. The project has no unusual site, roadway or project conditions that would require additional measures above the Fire

Code requirements. Additionally, 4.12-1(c) is not applicable because the project is not in a hillside area.

Program EIR MM 4.12-2(a) *Crime Prevention Unit Consultation* is applicable to the Project. Per Program EIR Mitigation Measure 4.12-2(a), the project applicant shall consult with the Los Angeles Police Department's Crime Prevention Unit regarding the incorporation of crime prevention features appropriate for the design of the project, including applicable features in the Los Angeles Police Department's Design Out Crime Guidelines. The Project would comply with Program EIR MM 4.12-2(a) The measures would be approved by LAPD before issuance of building permits.

Program EIR MM 4.12-2(b) *Security During Construction* would be applicable to the Project. The Project would provide private security personnel to monitor vehicle and pedestrian access to the construction areas, patrol the Project Site and install construction fencing with gated and locked entries around the perimeter of the construction site, and security lighting. Therefore, the Project would comply with Program EIR MM 12-2(b) *Security During Construction.*

Transportation

Transportation		
Construction Management Plan	☒ **Yes**	☐ **No**
Transportation Demand Management Program	☐ **Yes**	☒ **No**

Program EIR Mitigation Measure 4.14-2 *Transportation Demand Management Program* would not be applicable to the Project Site. A *Supplemental Transportation Assessment for the Refined 550 S. Shatto Place Project Los Angeles, California*, was prepared by Gibson Transportation Consulting, Inc, October 29, 2024 (**Appendix H-1**). As concluded in the *Supplemental Transportation Assessment,* based on the VMT Calculator population assumptions, the Project would not exceed the significance thresholds for VMT, and no mitigation measures would be required.

Project Specific MM TRAF-2 would be consistent with Program EIR 4.14-1 *Construction Management Plan* as it would provide guidance for a CMP with street closure information, a detour plan, and a staging plan, and would be prepared and submitted to the City for review and approval prior to commencing construction. A *Construction Traffic Management Plan was prepared* for the Project by Gibson Transportation Consulting, Inc, October 29, 2024 **(Appendix H-2).** The Construction Traffic Management Plan is consistent with Project Specific MM TRAF-2 and LADOT requirements and is required to be followed by the Applicant and any subcontractors in connection with construction of the Project and would apply during all aspects of construction.

The Construction Traffic Management Plan would facilitate timely completion of the Project and would minimize any potential construction-related effects that may be experienced by the surrounding community in connection with Project construction.

The Construction Traffic Management Plan also incorporates Project Specific MMs TRAF-2 through MM TRAF-6 that provide additional, project specific mitigation measures to further reduce potential construction-related traffic and safety impacts to pedestrians, bicyclists, and students of Young Oak Kim Academy located near the Project Site.MM TRAF-1 would require the service entryway along 6th Street would be limited to right-turn in/out access, reducing potential traffic movement conflicts and improving safety along 6th Street.

It should be noted that in response to E.1 Screening Criteria i, freeway queueing, **Appendix H-1**, provides a Freeway Safety analysis. US-101 southbound off-ramps to Vermont Avenue and Silverlake Boulevard are approximately one mile from the Project Site. Based on the trip generation estimates and trip assignments, the Project would not add 25 or more peak hour trips to any freeway offramp and would be screened out from providing further freeway off-ramp queuing analysis. Therefore, the Project would not require a transportation assessment by LADOT.

Tribal Cultural Resources

Tribal Cultural Resources		
Native American Consultation and Monitoring for Discretionary Projects	☒ **Yes**	☐ **No**
Discovery of Potential Tribal Cultural Resources	☒ **Yes**	☐ **No**

Program EIR MM 4.15-1(a) *Native American Consultation and Monitoring for Discretionary Projects* requires that all discretionary projects that involve ground disturbing activities in previously undisturbed soils, shall prepare a cultural resources assessment and do a record search with a study area of no less than 0.5 mile around the project area. Notification shall be provided to California Native American tribes that are traditionally and culturally affiliated with the geographic area of the project site and have submitted a written request to the Department of City Planning to be notified of proposed projects in that area. The Project would also be subject to and Program EIR MM 4.15-1(b) *Discovery of Potential Tribal Cultural Resources* in the event that Tribal Cultural Resources are discovered during Project activities,

The Project would be consistent with Program EIR MM 4.15-1(a). An Archaeological Resources Assessment Report was prepared by ESA in September 2018 and an Archaeological Resources Assessment Report-Addendum was prepared by ESA in September 2020. According to both archaeological reports, there were no known archaeological resources identified within the Project Site. The 2019 Approved SCEA conducted the required AB 52 consultation and determined that no identified tribal cultural resources as defined in PRC Section 21074(a)(1) that are 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).

The City completed a review of the archival materials and consultation materials submitted by the Gabrieleño Band of Mission Indians – Kizh Nation, for the Approved Project. The tribe did not submit any reference materials regarding known tribal resources beyond the information that they provided during verbal consultation for the Approved Project. During that consultation, the tribes provided a list of nearby resources which may have importance to the tribe, none of these potential resources overlap or occur within the Project. The Approved Project did not find any tribal cultural resources as defined in PRC Section 21074(a)(1) that are listed or eligible for listing in the California Register of Historical Resources, or that are determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to PRC Section 5024.1, have been identified within the Project Site.

Mitigation Measures

Air Quality

MM AIR-1: Construction equipment operating at the Project Site shall be subject to a number of requirements. These requirements shall be included in applicable bid documents and successful contractor(s) must demonstrate the ability to supply such equipment. Construction measures would include, but are not limited to the following:

- Prior to the issuance of a grading or building permit for each phase, an inventory of off-road heavy-duty construction equipment for that phase of construction, equal to or greater than 50 horsepower that will be used an aggregate of 40 or more hours, shall be provided to the Department of Building and Safety and the Department of City Planning. The inventory shall include the horsepower rating, engine production year, and certification of the specified Tier standard. A copy of each unit's certified tier specification or model year specification and California Air Resources Board or South Coast Air Quality Management District operating permit (if applicable) shall be available upon request at the time of mobilization of each applicable unit of equipment.
- Off-road diesel-powered equipment within the construction inventory shall meet the Tier 4 final off-road emissions standards within the Los Angeles region. Such equipment shall be outfitted with Best Available Control Technology (BACT) devices including a California Air Resources Board certified Level 3 Diesel Particulate Filter or equivalent;
- All cranes and welders shall be electric-powered;
- Forklifts shall be natural gas-powered;
- The Project shall utilize low-VOC coatings where commercially available during construction activities to avoid excessive VOC emissions; and
- Trucks and other vehicles in loading and unloading queues shall be parked with engines off to reduce vehicle emissions during construction activities.

Cultural Resources

MM CULT-1:

To ensure the retention and appropriate treatment and rehabilitation of all the identified character-defining features of the former church building, that would be retained as part of the Project, a preservation architect or preservation professional would be retained to monitor the appropriate treatment and rehabilitation of the former church building during construction.

Hazards

MM HAZ-1: In lieu of a dewatering and vent piping system, to attenuate methane risks, the Modified Project shall include design components, such as sloping to the bottom of the mat slab one percent and an active methane detection system tied into the mechanical system. These features, along with a waterproofing/methane membrane, would allow potential methane and vapor to move outside the building limits and eliminate any methane impact. The structural mat slab and subterranean walls would be designed hydrostatically. As part of the alternative design components, LADBS would be consulted as part of the design process of the Modified Project to ensure risks associated with methane would be minimized and to confirm whether a Project Site-specific methane gas mitigation system would be required based on the detected concentrations and the planned construction design.

MM HAZ-2: A Site Specific Soil Mitigation Plan (SMP) will be prepared that will provide guidance to contractors for appropriate handling, screening, and management of potentially impacted or impacted soils that may be encountered at the Project Site during grading and excavation activities. These procedures will include training for construction personnel on the appropriate procedures for identification of suspected impacted soils; requirements for testing and collection of potentially contaminated soils; segregation of potentially impacted soils; and applicable soil handling and disposal procedures.

The SMP will also include procedures for handling and transportation of soils with respect to nearby sensitive receptors, such as nearby residential uses and schools. In accordance with SCAQMD Rule 1166 requirements, impacted soil removed from the Project Site must comply with the following:

- Be transported to an approved treatment/disposal facility.
- When loading into trucks is completed, and during transportation, no excavated material will extend above the sides or rear of the truck or trailer.
- Prior to covering/tarping, loaded impacted soil must be wetted by spraying with dust inhibitors.
- The trucks or trailers must be completely covered/tarped prior to leaving the Project Site to prevent particulate emissions to the atmosphere.
- The exterior of the trucks (including the tires) must be cleaned off prior to the trucks leaving the excavation location and leaving the disposal site before returning to the Project Site.

MM HAZ-3: A Groundwater Management Plan (GWMP) will be prepared that includes training and protocol procedures to contractors for avoiding contact with groundwater during excavation and construction of the Project and appropriate disposal protocols of contaminated groundwater. The GWMP will include a requirement for development and implementation of a safety plan to be prepared prior to commencement of construction consistent with Occupational Safety and Health Administration (OSHA) Safety and Health Standards 29 CFR 1910.120 as well as management of groundwater produced through temporary dewatering activities. The safety plan will include necessary training, operating and emergency response procedures, and reporting requirements to regulate all activities that bring workers in contact with potentially contaminated groundwater. In the unlikely event that groundwater contamination occurs, the GWMP will include remedial efforts that may include batch extraction of groundwater using an on-site dewatering system or application of a chemical amendment, such as oxygen or hydrogen source depending on the type of contamination impact. Groundwater attenuation features may include the following: waterproofing the entire subgrade area; use of waterproofing that is compatible with constituents of concern; and sealing of electrical conduits, piping, etc. to close off preferential pathways.

In addition, the Project would include additional adequate design measures to mitigate potential groundwater infiltration from the subsurface. Potential design measures could include waterproofing the entire subgrade area, use of waterproofing compatible with Project Site-specific constituents of concern, and sealing electronic conduits, piping, etc. to prevent water from accessing preferential pathways.

MM HAZ-4: All concrete cuts and utility penetrations into the building pad(s) or concrete slab(s) that underlie the former church building that may occur during the remodeling/repurposing of the existing school building will be sealed via a vapor-barrier type wrap to add an additional measure of protection against potential vapor intrusion. An environmental professional would be on-site to monitor the sealing process. A pathway assessment/visual monitoring of the sealing of penetration shall be conducted after construction and the use of a vapor-barrier wrap is recommended.

Noise

MM NOISE-1: The Project shall limit construction and demolition to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturdays or holidays (City observed).

MM NOISE-2: The Project will not require or allow the use of impact pile drivers.

MM NOISE-3: The Project will not allow any delivery truck idling for more than 5 consecutive minutes in the loading area pursuant to State regulation (Title 13 California Code of Regulations, Section 2485). Signs will be posted in delivery loading areas specifying this idling restriction.

MM NOISE-4: The Project will not require or allow operation of any amplified sound system in the outdoor areas except for downward or inward facing speakers playing background music that will be confined to the outside ground-level dining patio areas.

MM NOISE-5: The Project shall implement construction noise reduction strategies to reduce noise levels from construction affecting the noise-sensitive residential receptors located to the east of the Project Site, with a performance standard of achieving a construction noise level of less than 80 dBA Leq at the noise-sensitive residential receptors adjacent to the east of the Project Site and the university and church use directly to the north of the Project Site. The noise reduction strategies shall include one or a combination of the following to achieve the performance standard.

- Use construction equipment, fixed or mobile, that individually generates less noise than presumed in the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM). Examples of such equipment are medium, compact, small, or mini model versions of backhoes, cranes, excavators, loaders, or tractors; or newer model equipment; or other applicable equipment that are equipped with reduced noise-generating engines. Construction equipment noise levels shall be documented based on manufacturer's specifications. The construction contractor shall keep construction equipment noise level documentation on-site for the duration of Project construction.

- Noise-generating equipment operated at the Project Site shall be equipped with California industry standard noise control devices to effectively reduce noise levels, i.e., mufflers, lagging, and/or motor enclosures. All equipment shall be properly maintained to assure that no additional noise, due to worn or improperly maintained parts, would be generated. The reduction in noise level from noise shielding and muffling devices shall be documented based on manufacturer's specifications. The construction contractor shall keep noise shielding and muffling device documentation on-site and documentation demonstrating that the equipment has been maintained in accordance with the manufacturers' specifications on-site for the duration of Project construction.

- Construction and demolition activities shall be scheduled so as to minimize or avoid operating multiple heavy pieces of equipment such as a large dozer, concrete saw, and excavator, simultaneously at the perimeter of the Project Site along the eastern boundary of the Project Site.

- The Project shall provide temporary minimum 8-foot-tall construction noise barriers along property lines facing adjacent off-site residential buildings to the east and northeast and off-site university and church use adjacent to the north. The temporary barriers shall at a minimum remain in place during early Project construction phases (up to the start of framing) when the use of heavy equipment is prevalent. Standard construction protective fencing with green screen or pedestrian barricades for protective walkways shall be installed along property lines facing streets or commercial buildings. All temporary barriers, fences, and walls shall have gate access as needed for construction activities, deliveries, and site access by construction personnel. The Applicant shall ensure through appropriate postings and frequent visual inspections that no unauthorized materials are posted on any temporary construction barriers or temporary pedestrian walkways that are accessible/visible to the public, and that such temporary barriers and walkways are maintained in a visually attractive manner (i.e., free of trash, graffiti, peeling postings and of uniform paint color or graphic treatment) throughout the construction period The construction management company's name and telephone number(s) shall be posted at a least one location along each street frontage that borders the Project Site.

- The Project shall stage noise-generating construction equipment as far away from the noise-sensitive receptors adjacent to the east of the Project Site as practicable; minimize the number of noise-generating construction equipment in simultaneous use; and/or provide other noise-reducing techniques.

The effectiveness of the noise reduction strategies to achieve the performance standard shall be documented by on-site noise monitoring conducted by a qualified acoustical analyst using a Type 1 instrument in accordance with the American National Standards Institute (ANSI) S1.4. Noise monitoring shall be conducted during early Project construction phases when the use of heavy equipment is prevalent.

MM NOISE-6: The Applicant shall designate a construction relations officer to serve as a liaison with surrounding residents and property owners who is responsible for responding to any concerns regarding construction. The liaison's telephone number(s) shall be prominently displayed at the Project Site. Signs shall also be posted at the Project Site that include permitted construction days and hours. In addition, no less than 30 days prior to the start of construction, the Applicant shall also meet with the principal, or other designated representatives, of Young Oak Kim Academy, including the LAUSD's Transportation Branch to discuss Project construction dates, the Construction Management Plan, and provide information regarding the construction relations officer who would serve as the liaison to the community.

MM NOISE-7: Due to potential noise impacts on the schools, no construction vehicles or haul trucks shall be staged or idled on W. 6th Street between Vermont Avenue and Shatto Place and on Shatto Place between W. 6th Street and Wilshire Boulevard during school hours.

MM NOISE-8: The Project shall implement construction vibration reduction strategies to reduce vibration levels from construction affecting vibration-sensitive receptors on the Project Site, to the east of the Project Site, and adjacent to the north of the Project Site, with a performance standard of achieving a construction vibration level of less than 0.5 inches per second PPV at the face of the on-site former church building, less than 0.3 inches per second PPV at the face of the 500 Shatto Place building, 3109 West 6th Street building and the 523 South Westmoreland Avenue building, and 72 VdB or less at occupied vibration-sensitive residential receptors adjacent to the east of the Project Site. Vibration reduction strategies shall include one or a combination of the following to achieve the performance standards.

- Use construction equipment, fixed or mobile, that individually generates less vibration than presumed in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual. Examples of such equipment are medium, compact, small, or mini model versions of bulldozers, drills, or trucks; or newer model equipment with lower vibration levels; or other applicable equipment that are equipped with reduced vibration-generating engines. Construction equipment vibration levels shall be documented based on manufacturer's specifications or other equipment or testing documentation. The construction contractor shall keep construction equipment vibration level documentation on-site for the duration of Project construction.

- Prior to obtaining a building permit, the effectiveness of the vibration reduction strategies to achieve the performance standard shall be documented in a vibration study conducted by a qualified acoustical/vibration engineer based on detailed Project plans for Plan Check.

MM NOISE-9: Prior to construction, the Applicant shall retain the services of a qualified acoustical/vibration engineer to review the proposed construction equipment and develop and implement a vibration monitoring program capable of documenting the construction-related ground vibration levels at the on-site former church building, the 500 Shatto Place building, the 3109 West 6th Street building, and the 523 South Westmoreland Avenue building.

- The Applicant and qualified acoustical/vibration engineer shall conduct a pre-construction survey that visually identifies the existing conditions of the on-site former church building, the 500 Shatto Place building, the 3109 West 6th Street building, and the 523 South Westmoreland Avenue building.
- During construction, the contractor shall install and maintain at least one continuously operational automated vibrational monitors on the on-site former church building, the 500 Shatto Place building, the 3109 West 6th Street building, and the 523 South Westmoreland Avenue building. The monitors shall be capable of being programmed with two predetermined vibratory velocities levels:
  - On-site former church building: a first-level alarm equivalent to a 0.48 inches per second PPV at the face of the on-site former church building and a regulatory alarm level equivalent to 0.5 inches per second PPV at the face of the on-site former church building.
  - 500 Shatto Place building, 3109 West 6th Street building and the 523 South Westmoreland Avenue building: a first-level alarm equivalent to a 0.28 inches per second PPV at the face of the 500 Shatto Place building, the 3109 West 6th Street building and the 523 South Westmoreland Avenue building and a regulatory alarm level equivalent to 0.3 inches per second PPV at the face of the 500 Shatto Place building, the 3109 West 6th Street building and the 523 South Westmoreland Avenue building.
- The monitoring system shall produce real-time specific alarms (for example, via text message and/or email to on-site personnel) when velocities exceed either of the predetermined levels. In the event of a first-level alarm, feasible steps to reduce vibratory levels shall be undertaken, including but not limited to halting/staggering concurrent activities and utilizing lower-vibratory techniques. In the event of an exceedance of the threshold level, the contractor shall review the construction work in the vicinity and investigate construction methods that would reduce vibration levels in the vicinity. If it is determined that the construction work is causing an exceedance of the vibration threshold level, the contractor shall also visually inspect the on-site former church building, the 500 Shatto Place building, the 3109 West 6th Street building, and the 523 South Westmoreland Avenue building for damage. Results of the inspection shall be logged. In the event damage occurs to finish materials due to construction vibration, such materials shall be repaired in consultation with a qualified preservation consultant, and if warranted, in a manner that meets the Secretary of the Interior's Standards.

MM NOISE-10: Prior to the issuance of grading permits, the Applicant will provide a shoring plan prepared by a qualified structural engineer who meets the relevant Secretary of the Interior's Professional Standards, for review and approval by the City of Los Angeles. The shoring plan will ensure the protection of the on-site former church building on the Project Site, as well as the potential historic resources adjacent to the Project Site at 3109 West 6th Street and 523 South Westmoreland Avenue, during construction.

Transportation

MM TRAF-1: The service entryway along 6th Street would be limited to right-turn in/out access.

MM TRAF-2: The Applicant shall prepare a detailed Construction Management Plan that shall include, but not be limited to, the following elements, as appropriate:

- Requiring workers and construction trucks to generally travel outside of the peak hours;
- Prohibition of construction worker parking on nearby residential streets;
- Temporary traffic control during all construction activities encroaching on public rights-of-way to improve traffic flow and safety on public roadways;
- Scheduling of construction activities to reduce the effect on traffic flow on surrounding arterial streets;
- Funding to Young Oak Kim Academy to provide an adequate number of crossing guards on school days to assist the safe movement of pedestrians/students at the intersection of 6th Street/Shatto Place when the sidewalks may be closed near Shatto Place and 6th Street for the Project's related construction.
- Safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers as appropriate;
- Scheduling of construction-related deliveries so as to generally occur outside the commuter peak hours; and
- Installation of appropriate traffic signs around the Project Site to ensure pedestrian, bicycle, and vehicle safety.

Public Services *(Construction Activity near Schools)*

MM TRAF-3: There shall be no staging or parking of construction vehicles, including vehicles to transport workers on any of the streets adjacent to the school.

Public Services (Schools Affected by Haul Route)

MM TRAF-4: LADBS shall assign specific haul route hours of operation based upon Young Oak Kim Academy's hours of operation.

MM TRAF-5: Haul route scheduling shall be sequenced to minimize conflicts with pedestrians, school buses and cars at the arrival and dismissal times of the school day. Haul route trucks shall not be routed past the school during periods when school is in session especially when students are arriving or departing from the campus.

MM TRAF-6: The Applicant shall plan construction and construction staging as to maintain pedestrian access on adjacent sidewalks throughout all construction phases. This requires the applicant to maintain adequate and safe pedestrian protection, including physical separation (including utilization of barriers such as K-Rails or scaffolding, etc) from workspace and vehicular traffic and overhead protection, due to sidewalk closure or blockage, at all times. Temporary pedestrian facilities shall be adjacent to the Project Site and provide safe, accessible routes that replicate as nearly as practical the most desirable characteristics of the existing facility. Covered walkways shall be provided where pedestrians are exposed to potential injury from falling objects. Applicant shall keep sidewalk open during construction until only when it is absolutely required to close or block sidewalk for construction staging. Sidewalk shall be reopened as soon as reasonably feasible taking construction and construction staging into account.

Figures

Appendix B
Tree Report

Tree Inventory Report

Shatto & 6th Development Project

514–550 Shatto Place
Los Angeles, California
Los Angeles Council District 10

Prepared for

TF Shatto, LP
450 SW Marine Drive, Suite 1212
Vancouver, BC V5X 0C3, Canada
Contact: Chase Pense, Director
T: (949) 383-0324

Prepared by

Psomas
225 South Lake Avenue, Suite 1000
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Contact: David T. Hughes, Senior Project Manager
Trevor Bristle, Registered Consulting Arborist No. 746
T: (626) 204-6530

April 24, 2024

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TABLES

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Attachment

EXECUTIVE SUMMARY

This report documents the findings of a tree inventory that was performed at the Shatto & 6th, Los Angeles Project site (hereinafter referred to as the "Project") in Los Angeles, California. Psomas Certified Arborist Trevor Bristle performed a field assessment of trees on April 3, 2024. The proposed Project is located at 514–550 Shatto Place. The Project consists of the development of an 8-story mixed-use building, over two subterranean parking levels providing 318 residential units with 234 parking spaces. It includes approximately 24,566 square feet of common and private open space, with resident amenities that include a club lounge, fitness, and co-working areas. The adjacent existing church structure will be renovated and converted into commercial use space.

The tree inventory identified a total of 25 trees that are subject to regulation by the City of Los Angles within and immediately adjacent to the Project site. None of the trees meet the definition of a "protected" tree and are instead non-protected tree species that have a trunk diameter greater than eight inches.

Project implementation is expected to require the removal of a total of 13 trees: 1 Indian laurel fig (*Ficus microcarpa*), 4 tipu trees (*Tipuana tipu*), 1 umbrella tree (*Heptapleurum actinophyllum*), 1 African fern pine (*Afrocarpus falcatus*), 1 crape myrtle (*Lagerstroemia indica*), 4 lemon-scented gum trees (*Corymbia citriodora*), and 1 queen palm (*Syagrus romanzoffiana*). No encroachment into the protected zone of trees to be preserved is expected to occur during Project development.

1.0 PROJECT OVERVIEW

This section provides background information related to the Shatto & 6th, Los Angeles Development Project in Los Angeles, California.

1.1 PURPOSE OF TREE REPORT

The purpose of the tree inventory is to support the environmental assessment of the proposed Project by documenting the type, quantity, and condition of trees on the Project site that are subject to regulation by the City of Los Angeles (City) and to determine the quantity of trees that will be removed. In all, Project implementation is expected to result in the removal of 13 trees for site development.

1.2 PROJECT INFORMATION

The Shatto & 6th, Los Angeles Project site is comprised of Assessor Parcel Numbers 5077-004-033 and 5077-004-025. The applicant for this Project is:

TF Shatto, LP
450 SW Marine Drive
Vancouver, BC V5X 0C3
Contact: Chase Pense
Phone: (949) 383-0324
E-mail: chase.pense@townline.com

1.3 PROJECT LOCATION

The Project site is located at 514-550 Shatto Place and is bounded by Shatto Place to the west, 6th Street to the south, and 5th Street to the north (Exhibits 1 and 2). The Project site is surrounded by urban commercial, residential, educational, and religious areas. Most trees are located along the south and west edges of the survey area and are associated with the existing surface parking lot and garden areas. Street trees occur along Shatto Place and 6th Street. Table 1 provides a breakdown of the size of the two Assessor Parcel Numbers that comprise the Project site.

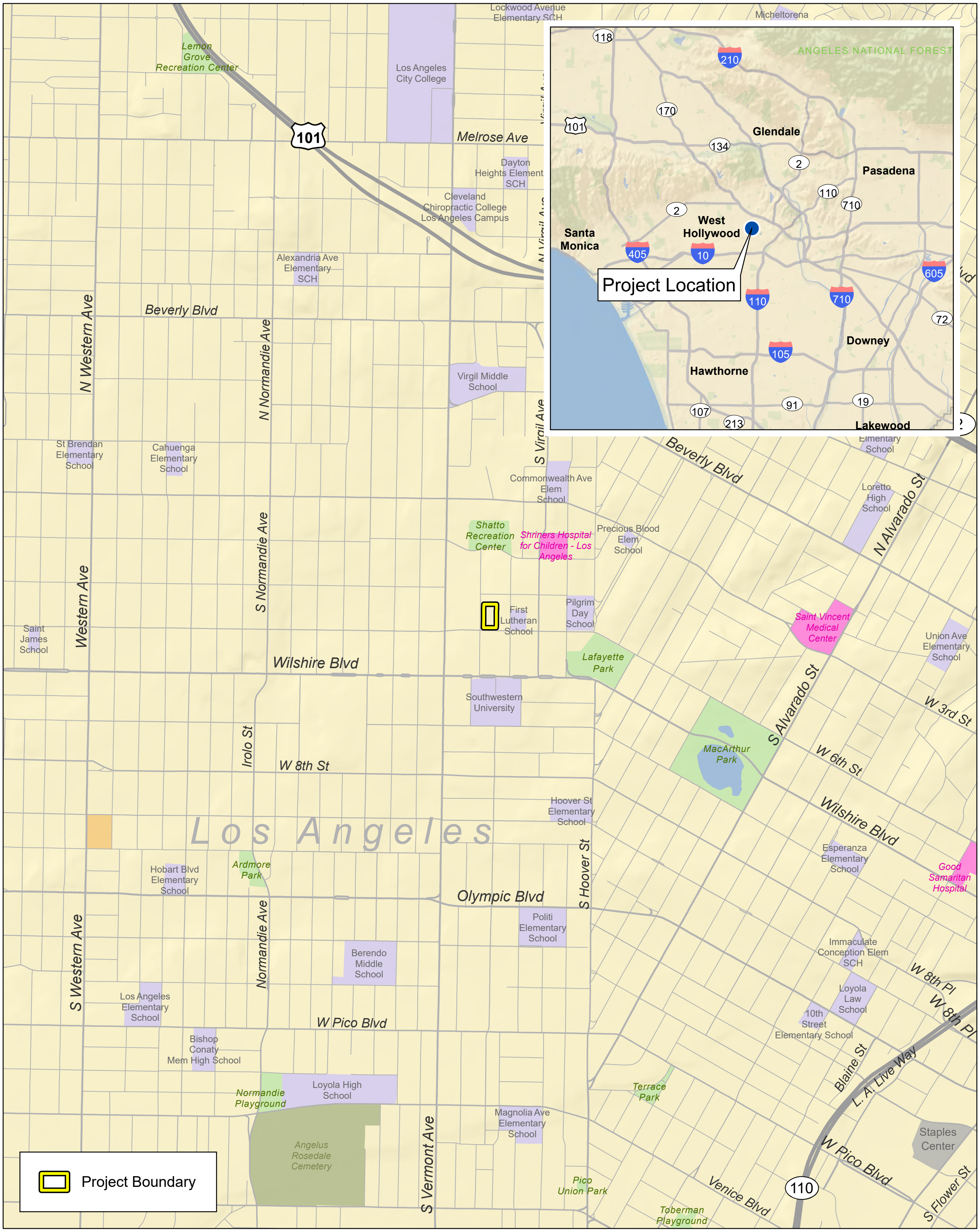
TABLE 1
PROPERTY DETAILS

Assessor Parcel Number	Acreage
5077-004-033	1.18
5077-004-025	0.64
Total	**1.82**

1.4 PROPOSED DEVELOPMENT

The approximate 1.82-acre Project site currently consists of a parking lot, playground, church, educational building, and office building. The site is relatively flat with site elevations between approximately 260 and 265 feet above mean sea level.

The Project consists of the development of an 8-story mixed-use building over two subterranean parking levels providing 318 residential units with 234 parking spaces. It includes approximately 24,566 square feet of common and private open space, with resident amenities that include a club lounge, fitness, and co-working areas. The adjacent existing church structure will be renovated and converted into commercial use space.



Project Location

Exhibit 1

Tree Inventory Report for the Shatto & 6th Project Site

N W E S

0 1,000 2,000 Feet

PSOMAS

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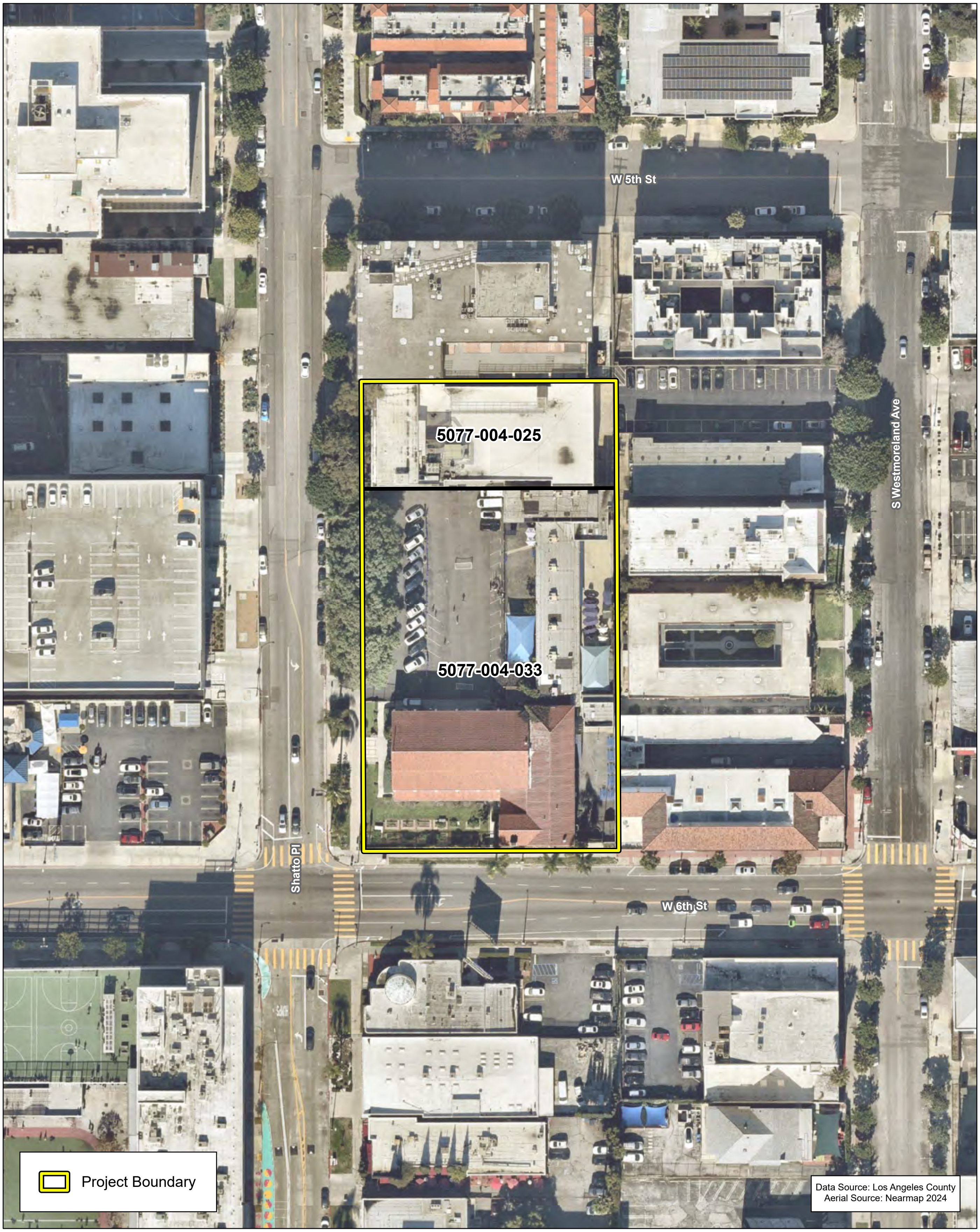

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Aerial Photograph

Exhibit 2

Tree Inventory Report for the Shatto & 6th Project Site

N W E S

0 50 100 Feet

PSOMAS

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1.5 TREE RETENTION/PRESERVATION EFFORTS

The Project's development footprint has been designed to occur in the northern section of the property. Trees are present along the western and southern edges of the footprint and are expected to be removed due to the planned development. Street trees also border the Project, and most will be preserved, except where construction of new driveways require their removal. Most trees on the property occur in tree wells or areas surrounded by hardscape along the edges of streets or parking lots. Tree protection zones will be delineated in the field and any work within these protection zones will be minimized to the greatest extent feasible. Implementation of several Best Management (described in Section 3.0) will also avoid and/or minimize impacts to on-site tree resources.

1.6 REGULATORY AUTHORITY

To support the environmental assessment for the proposed Project, this report identifies trees in the following categories:

1. Trees that are designated as "protected" as defined by Section 17.02 of the City of Los Angeles Municipal Code (City Protected Tree and Shrub Ordinance) that have a cumulative trunk diameter at standard height (dsh; measured 4.5 feet from median grade) of at least four inches. This category includes oak trees (*Quercus* spp.), Southern California black walnut (*Juglans californica*), western sycamore (*Platanus racemosa*), California bay laurel (*Umbellularia californica*), toyon (*Heteromeles arbutifolia*), and Mexican elderberry (*Sambucus nigra* [=*S. mexicana*]).
2. Non-protected trees that have a trunk dsh of at least 8 inches as specified in the City's Environmental Assessment Form
3. Street trees (trees within the City right-of-way) that are adjacent to the Project site are documented in this report. All street trees regardless of size are included herein.

2.0 TREE ASSESSMENT

This section describes the methods and results of the tree survey.

2.1 FIELD METHODOLOGY

Psomas Certified Arborist Trevor Bristle (International Society of Arboriculture Certificate No. WE-10233A; Registered Consulting Arborist No. 746) visited the Project site on April 3, 2024, to document the type, quantity, and condition of trees on the Project site. The field survey was conducted over an approximate three-hour period by walking the entire site. Weather conditions were clear, and the temperature was approximately 62 degrees. The survey area for the field evaluation consists of the property boundary and includes all trees immediately adjacent to the property boundary. All trees that meet the minimum size requirements described in Section 1.6 were included in the tree inventory. Each tree was individually numbered, and the trunk, branches, and foliage were examined. During the site visits, the following data were recorded: tree species, trunk dsh, tree height, and canopy width. The health and aesthetic quality of each tree was assessed on a scale of 1 (very poor) to 5 (excellent).

The health evaluation generally considered visual evidence of vigor, such as the amount of foliage; leaf color and size; presence of branch or twig dieback; severity of insect infestation; the presence of disease; heart rot; fire damage; mechanical damage; amount of new growth; appearance of bark; and rate of callous development over wounds. Structural integrity was also evaluated with respect to branch attachment, branch placement, root health, and stability. Tree aesthetics were evaluated with respect to overall form and symmetry, crown balance, branching pattern, and broken branches.

2.2 DATA ANALYSIS

A total of 25 trees were documented during the site survey, 13 of which occur within the Project site boundary and 12 other trees that occur within the City's right-of-way along Shatto Place and 6th Street. A summary of trees that were encountered during the tree survey are provided in Table 2 and their locations are presented in Exhibit 3.

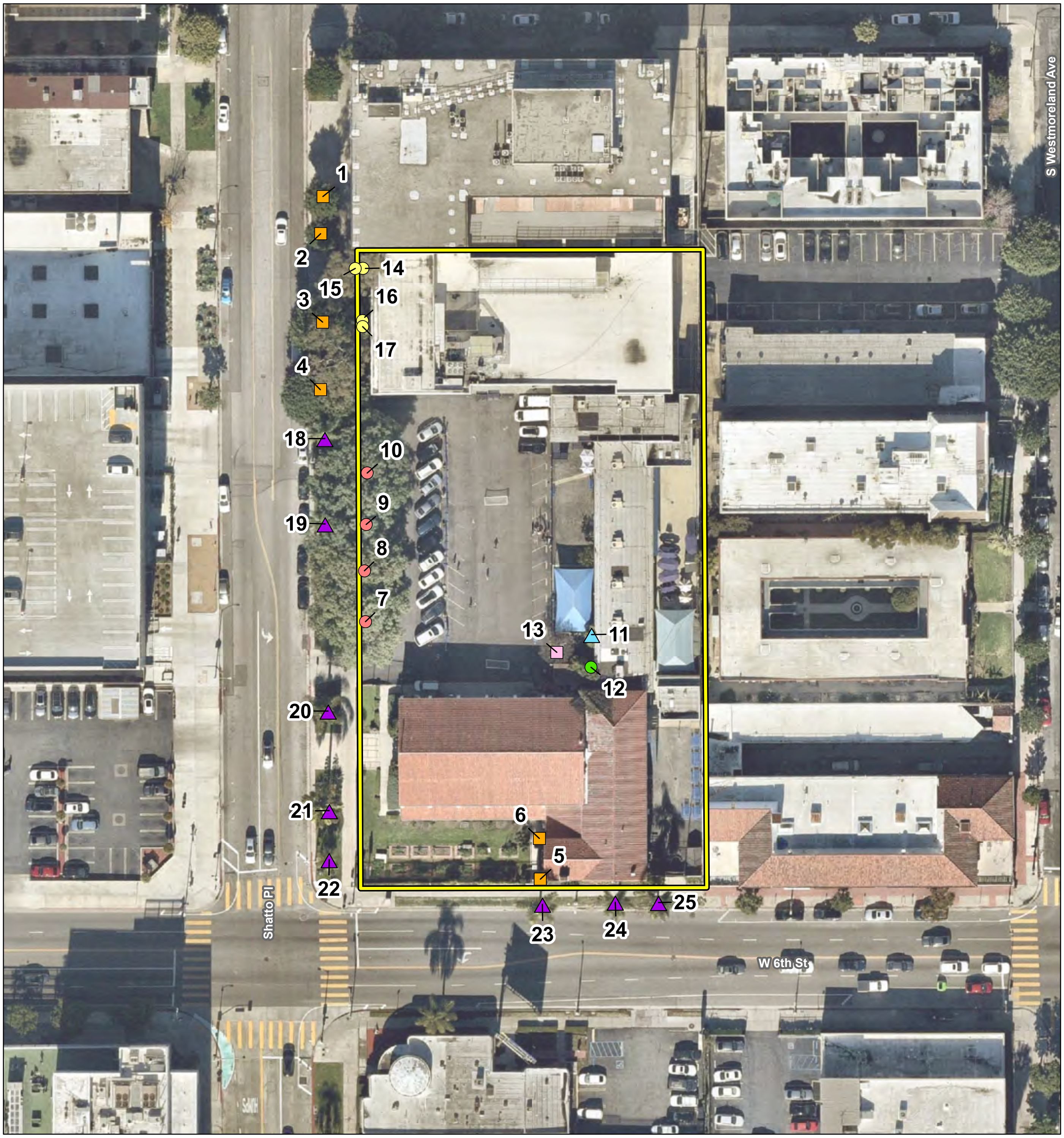
No trees documented during the field survey met the definition of a "protected" tree species as described in the City Protected Tree and Shrub Ordinance.

A complete summary of the collected tree data is provided in Attachment A and photos of the various trees on the Project site are provided in Attachment B.

Trees within the Project site boundary include 1 African fern pine (*Afrocarpus falcatus*), 4 lemon-scented gum trees (*Corymbia citriodora*), 2 Indian laurel fig (*Ficus microcarpa*), 1 umbrella tree (*Heptapleurum actinophyllum*), 1 crape myrtle (*Lagerstroemia indica*), and 4 tipu trees (*Tipuana tipu*). None of the trees are naturally occurring; all trees were intentionally planted for ornamental purposes.

Trees within the Project site boundary are generally in good to average health. Many of the trees have been pruned within the last several years and show signs of ongoing maintenance, to be expected in a landscaped setting. All trees on the Project site are growing in areas surrounded by hardscape which limits root development, and heat reflecting from the hardscape and surrounding buildings provides a general stressor to their health. No evidence of infectious tree diseases was observed for any of the trees documented in this report.

Street trees that occur on the periphery of the Project site boundary include 4 Indian laurel fig and 8 queen palms *(Syagrus romanzoffiana)*.



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Project Boundary

Non-Protected Trees

- African fern pine *(Afrocarpus falcatus)*
- lemon-scented gum *(Corymbia citriodora)*
- Indian laurel fig *(Ficus microcarpa)*
- umbrella tree *(Heptapleurum actinophyllum)*
- crape myrtle *(Lagerstroemia indica)*
- Queen palm *(Syagrus romanzoffiana)*
- Tipu tree *(Tipuana tipu)*

Aerial Source: Nearmap 2024

Tree Locations

Exhibit 3

Tree Inventory Report for the Shatto & 6th Project Site

N W E S

0 40 80 Feet

PSOMAS

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The two Indian laurel figs on the north end of Shatto Place (No. 1 and 2) have small canopies and appear to be regularly pruned to maintain this shape while the two figs located south of these (No. 3 and 4) are larger with much fuller canopies. All the Indian laurel figs are in good health with root systems constrained by the surrounding hardscape. This tree species has invasive roots that are beginning to outgrow their planting areas, which will likely result in damage to the surrounding hardscape.

Queen palms are located along Shatto Place and West 6th Street and are in fair health with moderate trunk damage. This damage consists of gouges and scrapes, likely the result of vehicle impacts, along with punctures from sign postings and graffiti. Trunk damage does not heal on this species of palm tree as they do not produce cambium (growth rings under the bark) which would close over and contain the wounds as other tree species do. Therefore, this damage is expected to remain and may reduce the lifespan of these palms.

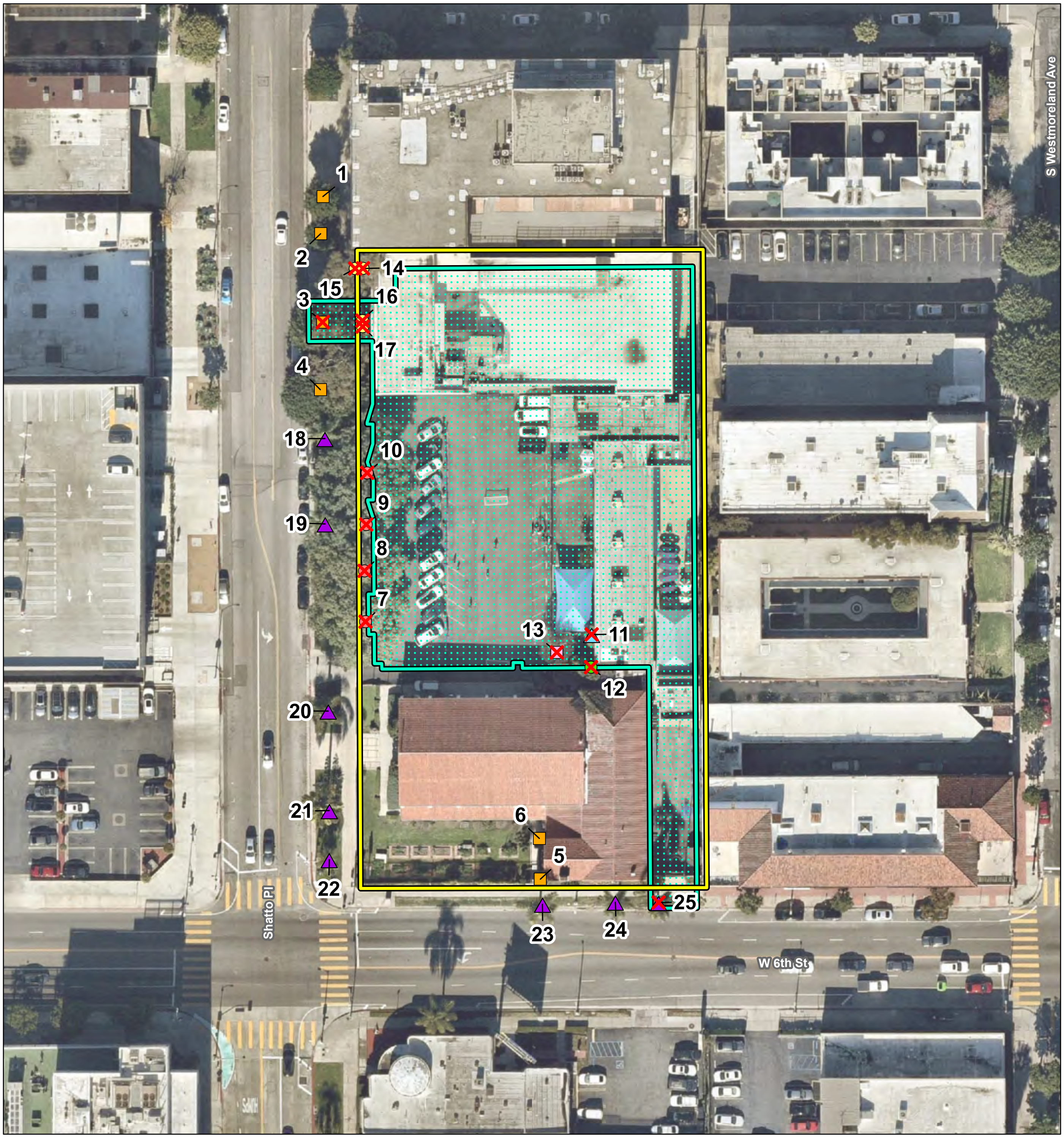
TABLE 2
TREE INVENTORY SUMMARY

Tree Species		Total Existing	DSH Size Range (in)	Height Range (ft)
Common Name	**Scientific Name**			
Trees Within Project Survey Area				
African fern pine	*Afrocarpus falcatus*	1	11.0	25
lemon-scented gum	*Corymbia citriodora*	4	8.8 – 20.2	60 – 75
Indian laurel fig	*Ficus microcarpa*	2	10.0 – 10.2	12 – 13
umbrella tree	*Heptapleurum actinophyllum*	1	15.6	20
crape myrtle	*Lagerstroemia indica*	1	16.0	25
tipu tree	*Tipuana tipu*	4	19.6 – 23.1	40 – 45
	Subtotal	*13*		
Street Trees				
Indian laurel fig	*Ficus microcarpa*	4	22.2 – 25.8	25 – 35
queen palm	*Syagrus romanzoffiana*	8	10.3 – 15.5	16 – 40
	Subtotal	*12*		
	Total	**25**		
DSH: trunk diameter at standard height; in: inches; ft: feet.				

Aside from the street trees summarized above in Table 2, there are no other trees in the vicinity of the Project site that will be affected by proposed construction activities.

2.3 PROJECT IMPACTS AND MITIGATION

Project development activities will mostly occur in the northern portion of the Project site and are expected to result in the removal of a total of 13 trees, 11 of which are within the Project site boundaries and 2 trees within the City's right-of-way along the streets. Trees to be removed on the Project site include 1 African fern pine, 1 crape myrtle, 4 lemon-scented gum, 4 Tipu trees, and 1 umbrella tree. These are tree numbers 7 to 17 as indicated on Exhibit 4 and they are located in hardscape areas along the current central parking lot and buildings. Trees within the City's right-of-way that will be removed include 1 Indian laurel fig on Shatto Place and 1 queen palm on 6th Street. A site plan is provided in Attachment C that shows the location of on-site and street trees described herein. Based on the development footprint, no encroachment is expected within the tree protection zones of the trees to remain as their roots and canopies do not extend into the Project development area.



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Project Boundary

Project Development Area

Trees to be Removed

Non-Protected Trees

- African fern pine *(Afrocarpus falcatus)*
- lemon-scented gum *(Corymbia citriodora)*
- Indian laurel fig *(Ficus microcarpa)*
- umbrella tree *(Heptapleurum actinophyllum)*
- crape myrtle *(Lagerstroemia indica)*
- Queen palm *(Syagrus romanzoffiana)*
- Tipu tree *(Tipuana tipu)*

Aerial Source: Nearmap 2024

Tree Impacts

Exhibit 4

Tree Inventory Report for the Shatto & 6th Project Site

N E S W

0 40 80 Feet

PSOMAS

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Table 3 provides a summary of proposed tree impacts associated with the Project following the format of the City's Environmental Assessment Form.

TABLE 3
SUMMARY OF PROPOSED TREE IMPACTS

Tree Status	Quantity Existing	Tree Types	Quantity Removed	Quantity Relocated	Quantity Impacted*
Trees Within Project Site Boundary					
Protected Trees (4" trunk diameter and greater)	0	N/A	0	0	0
Subtotal	**0**		**0**	**0**	**0**
Non-Protected Trees (8" trunk diameter and greater)	1	African fern pine *Afrocarpus falcatus*	1	0	0
	4	lemon-scented gum *Corymbia citriodora*	4	0	0
	2	Indian laurel fig *Ficus microcarpa*	0	0	0
	1	umbrella tree *Heptapleurum actinophyllum*	1	0	0
	1	crape myrtle *Lagerstroemia indica*	1	0	0
	4	tipu *Tipuana tipu*	4	0	0
Subtotal	**13**		**11**	**0**	**0**
Street Trees					
Non-Protected Trees (All trees)	4	Indian laurel fig *Ficus microcarpa*	1	0	0
	8	queen palm *Syagrus romanzoffiana*	1	0	0
Subtotal	**12**		**2**	**0**	**0**
*Impacted trees are defined as those that experience soil disturbance within five feet or underneath the tree's canopy.					

The City of Los Angeles Protected Tree and Shrub Ordinance does not discuss specific mitigation measures for the removal of on-site non-protected trees. A total of 49 replacement trees are proposed to offset the removal of the 13 trees described above. Replacement tree species will include shoestring acacia (*Acacia stenophylla*), ginkgo (*Ginkgo biloba*), goldenrain tree (*Koelreuteria paniculata*), and fruitless olive (*Olea europea*).

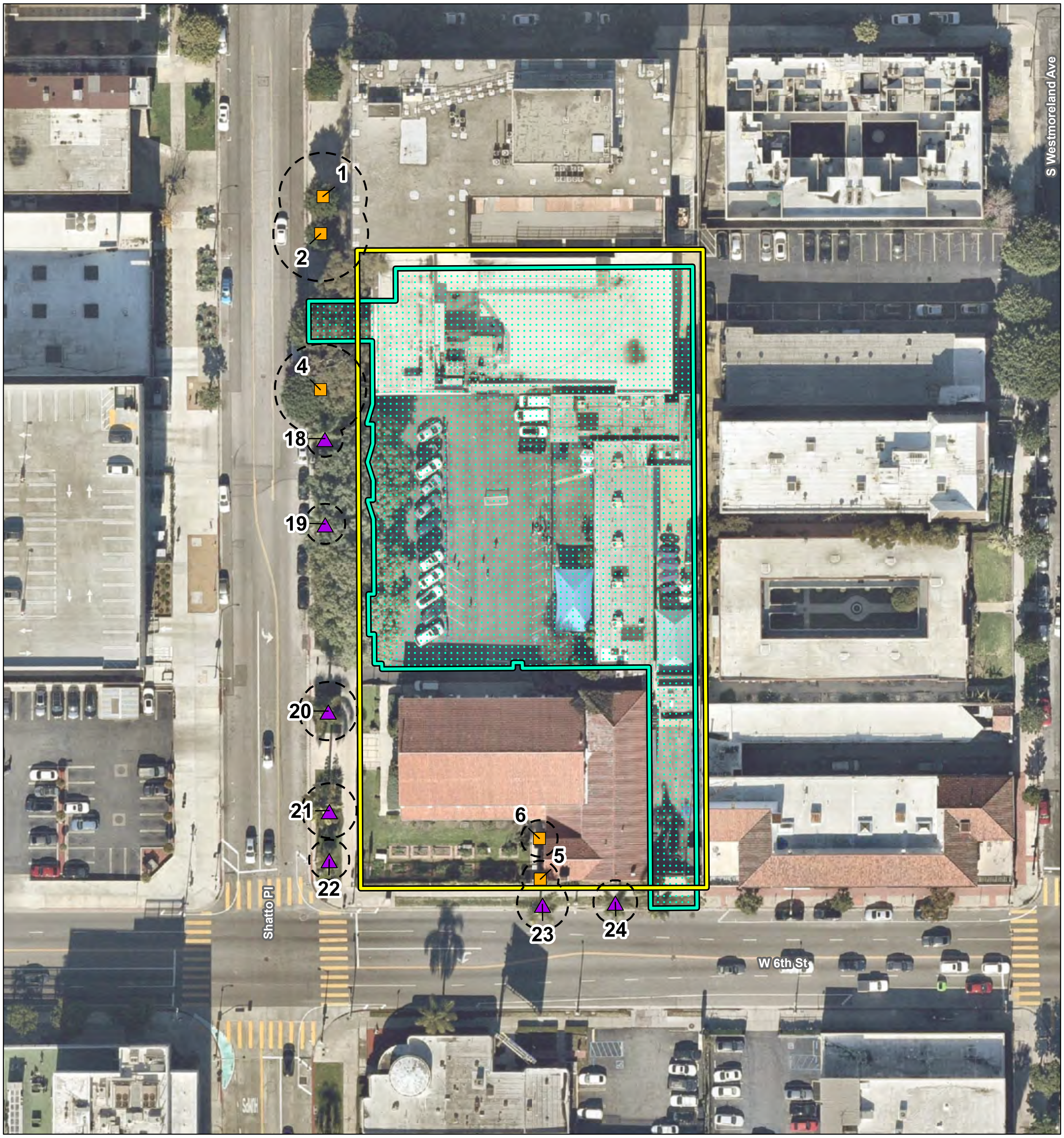
2.4 HABITAT INTEGRITY ANALYSIS

The Project site does not contain any woodlands or sensitive natural vegetation communities. Therefore, a Habitat Integrity Analysis is not required.

3.0 BEST MANAGEMENT PRACTICES

To ensure successful avoidance and/or minimization of Project impacts on trees, the following Best Management Practices (BMPs) shall be implemented:

- A Certified Arborist shall be retained to oversee any construction activities that may affect trees to be retained.
- For all trees in the vicinity of the Project construction area to be retained (including street trees), a Tree Protection Zone (TPZ) shall be delineated according to the procedures provided by the City. The radius of each TPZ will be determined by multiplying the dsh by 12 and installing conspicuous protective fencing to show the limits of the TPZ. The fencing shall be installed prior to any soil disturbing activities and shall not be removed until all ground disturbing activities in the vicinity of these trees is complete. Exhibit 5 shows the limits of TPZs for all trees to be retained during Project construction activities.
- The TPZs for all trees to be retained during construction activities should be represented on Project construction plans.
- No storage or operation of equipment or materials will be allowed within any TPZ. Spill kits should always be present so that accidental spills of harmful products near a TPZ can be immediately cleaned up.
- No ground disturbance shall occur within any TPZ. If any excavations within a TPZ become unavoidably necessary, work shall be conducted using only hand-held tools. The Certified Arborist shall be present for any such disturbance within the TPZ or during any tree trimming that requires removal of branches greater than 3 inches in diameter or pruning that affects more than 10 percent of an individual tree's canopy.
- The Certified Arborist shall be responsible for evaluating the condition of trees to be retained at the conclusion of construction activities. This evaluation will determine if Project activities negatively affected the trees' health and whether additional replacement trees are needed.
- A tree performance bond (per Section 17.05, Subsection R[4][d]) shall be provided in an amount that is acceptable to the City of Los Angeles to ensure that any relocated and replacement trees are successfully established.
- The Certified Arborist shall be responsible for monitoring the health and establishment of replacement trees that are required as part of the Project.



Project Boundary
Project Development Area
Tree Protection Zones

Non-Protected Trees

- African fern pine *(Afrocarpus falcatus)*
- lemon-scented gum *(Corymbia citriodora)*
- Indian laurel fig *(Ficus microcarpa)*
- umbrella tree *(Heptapleurum actinophyllum)*
- crape myrtle *(Lagerstroemia indica)*
- Queen palm *(Syagrus romanzoffiana)*
- Tipu tree *(Tipuana tipu)*

Aerial Source: Nearmap 2024

Tree Protection Zones

Exhibit 5

Tree Inventory Report for the Shatto & 6th Project Site

N W E S

0 40 80 Feet

PSOMAS

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4.0 CONCLUSIONS AND RECOMMENDATIONS

Project development is expected to result in the removal of 11 on-site trees and 2 street trees, consisting of non-protected tree species. Implementation of the BMPs described in Section 3.0 is anticipated to adequately protect trees to be retained during construction.

5.0 GLOSSARY

BMP: Best Management Practice

DSH: Diameter at Standard Height

TPZ: Tree Protection Zone

ATTACHMENT A

COLLECTED TREE DATA SUMMARY

TABLE A-1
COLLECTED TREE DATA SUMMARY

Tree No.	Tree Species	Natural/ Planted	Location	Status	# of Trunks	1st Trunk DSH	2nd Trunk DSH	3rd Trunk DSH	Total DSH	Height (ft)	Canopy Diameter (ft)	Health	Aesthetics	Recommended Disposition	Reason for Proposed Tree Removal	Replacement Ratio	Replacement Species	Notes
1	Indian laurel fig *Ficus microcarpa*	Planted	Street tree	Non-Protected	1	25.4	–	–	25.4	25	20	4	4	No Impact	N/A	N/A	N/A	Shaped/pruned
2	Indian laurel fig *Ficus microcarpa*	Planted	Street tree	Non-Protected	1	25.8	–	–	25.8	25	15	4	4	No Impact	N/A	N/A	N/A	Shaped/pruned
3	Indian laurel fig *Ficus microcarpa*	Planted	Street tree	Non-Protected	1	22.2	–	–	22.2	35	30	4	4	Removal	New Construction	1:1	TBD	Shaped/pruned, exposed roots, hardscape damage
4	Indian laurel fig *Ficus microcarpa*	Planted	Street tree	Non-Protected	1	24.7	–	–	24.7	35	40	4	3	No Impact	N/A	N/A	N/A	Shaped/pruned, exposed roots, hardscape damage, graffiti
5	Indian laurel fig *Ficus microcarpa*	Planted	On-Site	Non-Protected	1	10.0	–	–	10.0	12	7	4	4	No Impact	N/A	N/A	N/A	Shaped/pruned
6	Indian laurel fig *Ficus microcarpa*	Planted	On-Site	Non-Protected	1	10.2	–	–	10.0	13	8	4	4	No Impact	N/A	N/A	N/A	Shaped/pruned
7	Tipu tree *Tipuana tipu*	Planted	On-Site	Non-Protected	1	23.1	–	–	23.1	45	45	4	4	Removal	New Construction	1:1	TBD	Seasonal foliage, co-dominant trunks
8	Tipu tree *Tipuana tipu*	Planted	On-Site	Non-Protected	1	20.2	–	–	20.2	45	40	4	4	Removal	New Construction	1:1	TBD	Seasonal foliage
9	Tipu tree *Tipuana tipu*	Planted	On-Site	Non-Protected	1	19.6	–	–	19.6	45	35	4	4	Removal	New Construction	1:1	TBD	Seasonal foliage
10	Tipu tree *Tipuana tipu*	Planted	On-Site	Non-Protected	1	21.0	–	–	21.0	45	40	4	4	Removal	New Construction	1:1	TBD	Seasonal foliage
11	umbrella tree *Heptapleurum actinophyllum*	Planted	On-Site	Non-Protected	2	8.0	7.6	–	15.6	20	10	3	3	Removal	New Construction	1:1	TBD	Outgrowing planter. Seasonal foliage, slightly necrotic
12	African fern pine *Afrocarpus falcatus*	Planted	On-Site	Non-Protected	2	5.9	5.1	–	11.0	25	12	3	3	Removal	New Construction	1:1	TBD	Outgrowing planter. Vines on trunk/canopy
13	crape myrtle *Lagerstroemia indica*	Planted	On-Site	Non-Protected	3	6.0	5.0	5.0	16.0	25	20	4	4	Removal	New Construction	1:1	TBD	Outgrowing planter
14	lemon-scented gum *Corymbia citriodora*	Planted	On-Site	Non-Protected	1	13.9	–	–	13.9	65	30	4	4	Removal	New Construction	1:1	TBD	In concrete cutout
15	lemon-scented gum *Corymbia citriodora*	Planted	On-Site	Non-Protected	1	17.3	–	–	17.3	70	35	4	4	Removal	New Construction	1:1	TBD	In concrete cutout
16	lemon-scented gum *Corymbia citriodora*	Planted	On-Site	Non-Protected	1	8.8	–	–	8.8	60	25	4	4	Removal	New Construction	1:1	TBD	–
17	lemon-scented gum *Corymbia citriodora*	Planted	On-Site	Non-Protected	1	20.2	–	–	20.2	75	40	4	4	Removal	New Construction	1:1	TBD	Lean to West
18	queen palm *Syagrus romanzoffiana*	Planted	Street tree	Non-Protected	1	10.3	–	–	10.3	35	15	3	3	No Impact	N/A	N/A	N/A	Trunk damage
19	queen palm *Syagrus romanzoffiana*	Planted	Street tree	Non-Protected	1	10.6	–	–	10.6	35	15	3	3	No Impact	N/A	N/A	N/A	Trunk damage, graffiti
20	queen palm *Syagrus romanzoffiana*	Planted	Street tree	Non-Protected	1	15.5	–	–	15.5	40	15	3	3	No Impact	N/A	N/A	N/A	Trunk damage
21	queen palm *Syagrus romanzoffiana*	Planted	Street tree	Non-Protected	1	15.3	–	–	15.3	40	15	3	3	No Impact	N/A	N/A	N/A	Trunk damage
22	queen palm *Syagrus romanzoffiana*	Planted	Street tree	Non-Protected	1	10.5	–	–	10.5	16	12	3	3	No Impact	N/A	N/A	N/A	Trunk damage
23	queen palm *Syagrus romanzoffiana*	Planted	Street tree	Non-Protected	1	14.4	–	–	14.4	35	15	3	3	No Impact	N/A	N/A	N/A	Trunk damage, graffiti

TABLE A-1
COLLECTED TREE DATA SUMMARY

Tree No.	Tree Species	Natural/ Planted	Location	Status	# of Trunks	1st Trunk DSH	2nd Trunk DSH	3rd Trunk DSH	Total DSH	Height (ft)	Canopy Diameter (ft)	Health	Aesthetics	Recommended Disposition	Reason for Proposed Tree Removal	Replacement Ratio	Replacement Species	Notes
24	queen palm *Syagrus romanzoffiana*	Planted	Street tree	Non-Protected	1	11.7	–	–	11.7	35	15	3	3	No Impact	N/A	N/A	N/A	Trunk damage, graffiti
25	queen palm *Syagrus romanzoffiana*	Planted	Street tree	Non-Protected	1	13.6	–	–	13.6	35	15	3	3	Removal	New Construction	1:1	TBD	Trunk damage, graffiti

DSH: Diameter at Standard Height (4.5 ft from mean grade); ft: feet; Health/Aesthetic: 5 (Excellent), 4 (Good), 3 (Fair), 2 (Poor), 1 (Very Poor).

ATTACHMENT B

TREE PHOTOS

Photo 1. View of Tree 1

Photo 2. View of Tree 2

Tree Photographs

Attachment B-1

Tree Inventory Report for the Shatto & 6th Project Site

PSOMAS

(Rev: 4-08-2024 PLO) R:\Projects\TOW\3TOW010200\Graphics\Trees\AttB_Photos.pdf

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Photo 3. View of Tree 3

Photo 4. View of Tree 4

D:\Projects\3TOW\Shatto_Place\PRO\ShattoPL_Project\ShattoPL_Project.aprx\Photo_Exhibit_Trees

Tree Photographs

Attachment B-2

Tree Inventory Report for the Shatto & 6th Project Site

PSOMAS

(Rev: 4-08-2024 PLO) R:\Projects\TOW\3TOW010200\Graphics\Trees\AttB_Photos.pdf

Photo 5. View of Tree 5

Photo 6. View of Tree 6

Tree Photographs

Attachment B-3

Tree Inventory Report for the Shatto & 6th Project Site

PSOMAS

(Rev: 4-08-2024 PLO) R:\Projects\TOW\3TOW010200\Graphics\Trees\AttB_Photos.pdf

D:\Projects\3TOW\Shatto_Place\PRO\ShattoPL_Project\ShattoPL_Project.aprx\Photo_Exhibit_Trees

D:\Projects\3TOW\Shatto_Place\PRO\ShattoPL_Project\ShattoPL_Project.aprx\Photo_Exhibit_Trees

Photo 7. View of Tree 7

Photo 8. View of Tree 8

Tree Photographs

Attachment B-4

Tree Inventory Report for the Shatto & 6th Project Site

PSOMAS

(Rev: 4-08-2024 PLO) R:\Projects\TOW\3TOW010200\Graphics\Trees\AttB_Photos.pdf

Photo 9. View of Tree 9

Photo 10. View of Tree 10

Tree Photographs

Attachment B-5

Tree Inventory Report for the Shatto & 6th Project Site

PSOMAS

(Rev: 4-08-2024 PLO) R:\Projects\TOW\3TOW010200\Graphics\Trees\AttB_Photos.pdf

D:\Projects\3TOW\Shatto_Place\PRO\ShattoPL_Project\ShattoPL_Project.aprx\Photo_Exhibit_Trees

Photo 11. View of Tree 11

Photo 12. View of Tree 12

Tree Photographs

Attachment B-6

Tree Inventory Report for the Shatto & 6th Project Site

PSOMAS

(Rev: 4-08-2024 PLO) R:\Projects\TOW\3TOW010200\Graphics\Trees\AttB_Photos.pdf

D:\Projects\3TOW\Shatto_Place\PRO\ShattoPL_Project\ShattoPL_Project.aprx\Photo_Exhibit_Trees

Photo 13. View of Tree 13

Photo 14. View of Tree 14

Tree Photographs

Attachment B-7

Tree Inventory Report for the Shatto & 6th Project Site

PSOMAS

Photo 15. View of Tree 15

Photo 16. View of Tree 16

Tree Photographs

Attachment B-8

Tree Inventory Report for the Shatto & 6th Project Site

PSOMAS

Photo 17. View of Tree 17

Photo 18. View of Tree 18

Tree Photographs

Attachment B-9

Tree Inventory Report for the Shatto & 6th Project Site

PSOMAS

Photo 19. View of Tree 19

Photo 20. View of Tree 20

Tree Photographs

Attachment B-10

Tree Inventory Report for the Shatto & 6th Project Site

PSOMAS

(Rev: 4-08-2024 PLO) R:\Projects\TOW\3TOW010200\Graphics\Trees\AttB_Photos.pdf

D:\Projects\3TOW\Shatto_Place\PRO\ShattoPL_Project\ShattoPL_Project.aprx\Photo_Exhibit_Trees

Photo 21. View of Tree 21

Photo 22. View of Tree 22

Tree Photographs

Attachment B-11

Tree Inventory Report for the Shatto & 6th Project Site

PSOMAS

D:\Projects\3TOW\Shatto_Place\PRO\ShattoPL_Project\ShattoPL_Project.aprx\Photo_Exhibit_Trees

Photo 23. View of Tree 23

Photo 24. View of Tree 24

Tree Photographs

Attachment B-12

Tree Inventory Report for the Shatto & 6th Project Site

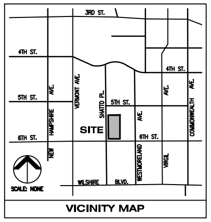
PSOMAS

(Rev: 4-08-2024 PLO) R:\Projects\TOW\3TOW010200\Graphics\Trees\AttB_Photos.pdf

Photo 25. View of Tree 25

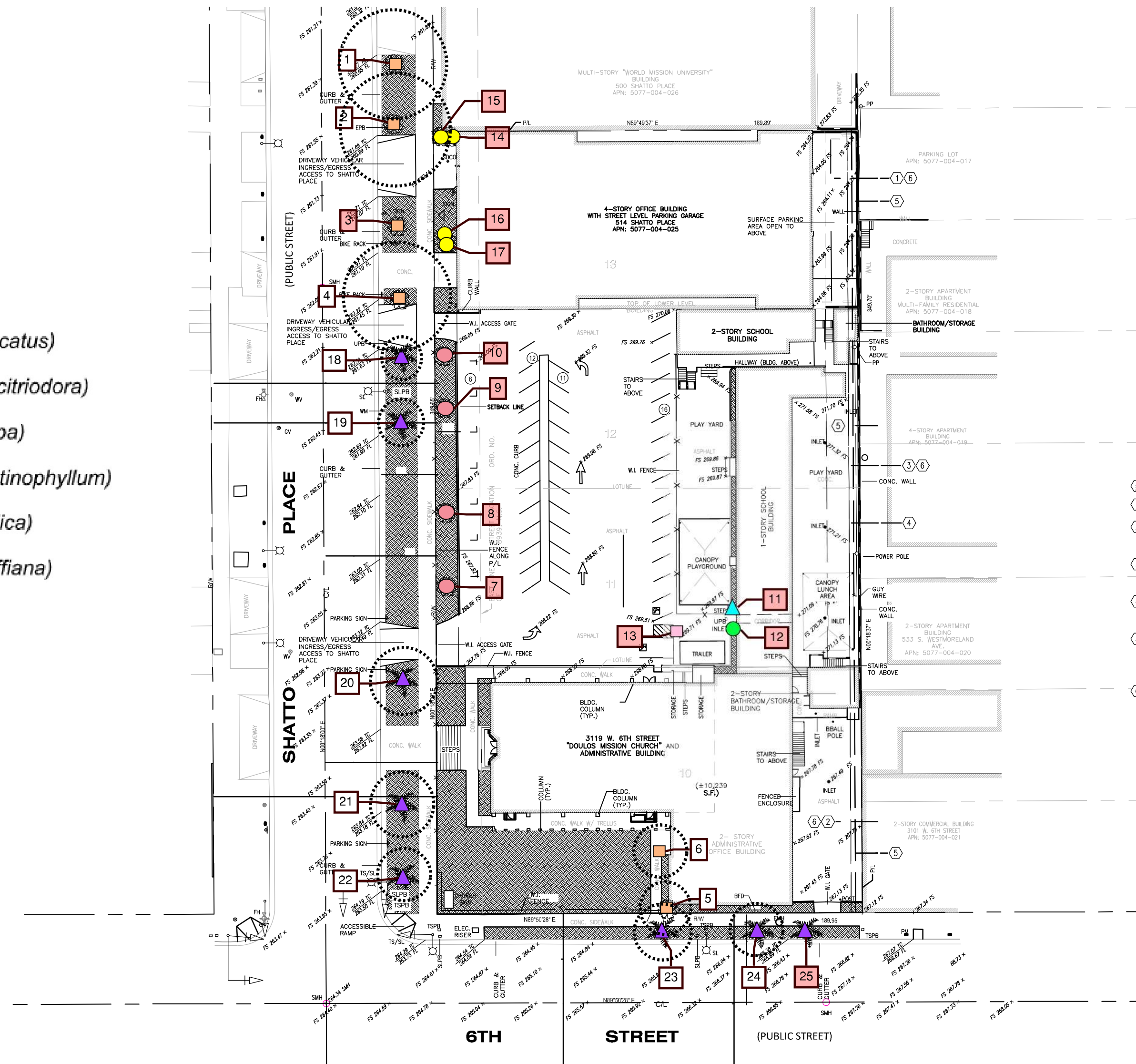
ATTACHMENT C

SITE PLAN



Non-Protected Trees

- African fern pine (*Afrocarpus falcatus*)
- lemon-scented gum (*Corymbia citriodora*)
- Indian laurel fig (*Ficus microcarpa*)
- umbrella tree (*Heptapleurum actinophyllum*)
- crape myrtle (*Lagerstroemia indica*)
- Queen palm (*Syagrus romanzoffiana*)
- Tipu tree (*Tipuana tipu*)
- Tree Protection Zones



REFERENCES

PRELIMINARY REPORTS FOR TITLE INSURANCE PREPARED BY:

CHICAGO TITLE COMPANY

ORDER NO. 111708505-JP
EFFECTIVE DATE: NOVEMBER 17, 2017

FIDELITY NATIONAL TITLE COMPANY

ORDER NO. 00212898-994-VNO-RR1
EFFECTIVE DATE: DECEMBER 3, 2018

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF LOS ANGELES, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

LOTS 10, 11, 12, AND 13 IN BLOCK 3, IN THE SHATTO PLACE TRACT, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 6 PAGE 86 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

AREAS

TOTAL AREA CONSISTS OF:	66,411 S.F. (1.524 ACRES)
LOT 10:	20,875 S.F. (0.479 ACRES)
LOTS 11 AND 12:	30,361 S.F. (0.697 ACRES)
LOT 13:	15,175 S.F. (0.348 ACRES)

BENCHMARK

FOUND SPIKE ON WEST CURB OF VERMONT AVENUE; 3 FEET NORTH OF BCR NORTH OF 6TH STREET.

ELEVATION: 241.166 NAVD 1988

FLOOD ZONE

THE SUBJECT PROPERTY IS LOCATED WITHIN ZONE X (UNSHADED), CONSIDERED TO BE AN AREA OF MINIMAL FLOOD HAZARD AND AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS SHOWN ON THE FLOOD INSURANCE RATE, AS SHOWN ON THE FLOOD INSURANCE RATE MAP NO. 06037C1610F, WITH AN EFFECTIVE DATE OF SEPTEMBER 26, 2008.

EASEMENTS

# INDICATES EASEMENT SHOWN HEREON.

1 EASEMENT FOR PUBLIC UTILITIES PURPOSES RECORDED IN BOOK 4279 PAGE 90 OF DEEDS. **AFFECTS EAST 5 FEET OF LOT 13.**

2 EASEMENT FOR POLE LINES AND CONDUITS PURPOSES AND RIGHTS INCIDENTAL THERETO, RECORDED IN BOOK 5335 PAGE 163, OF OFFICIAL RECORDS. **AFFECTS EAST 5 FEET OF LOT 10.**

3 EASEMENT FOR POLE LINES AND CONDUITS PURPOSES AND RIGHTS INCIDENTAL THERETO, RECORDED IN BOOK 4584 PAGE 125, OF DEEDS. **AFFECTS EAST 5 FEET OF LOT 12.**

4 EASEMENT FOR POLE LINES AND CONDUITS PURPOSES AND RIGHTS INCIDENTAL THERETO, RECORDED IN BOOK 4591 PAGE 25, OF DEEDS. **AFFECTS EAST 5 FEET OF LOT 11.**

5 EASEMENT IN FAVOR OF THE CITY OF LOS ANGELES, SUCCESSOR TO LOS ANGELES, GAS & ELECTRIC CORP. FOR POLE LINES AND CONDUITS PURPOSES AND RIGHTS INCIDENTAL THERETO, RECORDED IN BOOK 15520 PAGE 252, OF OFFICIAL RECORDS.
AFFECTS REAR 3 FEET OF LOTS 10, 11, 12, AND 13.

6 EASEMENT IN FAVOR OF THE CITY OF LOS ANGELES, SUCCESSOR TO LOS ANGELES GAS AND ELECTRIC CORP. FOR POLE LINES AND CONDUITS PURPOSES AND RIGHTS INCIDENTAL THERETO, RECORDED IN BOOK 15526 PAGE 209, OF OFFICIAL RECORDS.
AFFECTS REAR 5 FEET OF LOTS 10, 11, AND 12.

ABBREVIATIONS

APN	ASSESSOR'S PARCEL NUMBER
BBALL	BASKETBALL
BFD	BACKFLOW DEVICE
BLDG	BUILDING
C/L	CENTERLINE
CONC.	CONCRETE
ELEC	ELECTRICAL
EMH	ELECTRICAL MANHOLE
EPB	ELECTRICAL PULL BOX
FH	FIRE HYDRANT
FL	FLOW LINE
FS	FINISH SURFACE
GV	GAS VALVE
P/L	PROPERTY LINE
PM	PARKING METER
PP	POWER/UTILITY POLE
R/W	RIGHT OF WAY
S.F.	SQUARE FEET
SDCO	STORM DRAIN CLEANOUT
SL	STREET LIGHT
SLPB	STREET LIGHT PULL BOX
SMH	SEWER MANHOLE
TC	TOP OF CURB
TS	TRAFFIC SIGNAL
TSPB	TRAFFIC SIGNAL PULL BOX
TYP.	TYPICAL
UPB	UTILITY PULL BOX
W/	WITH
W.I.	WROUGHT IRON FENCE
WM	WATER METER
WV	WATER VALVE

LEGEND

- BOUNDARY
- RIGHT OF WAY
- CENTERLINE
- LOTLINE
- LANDSCAPE
- # PARKING STALLS

514-550 SHATTO PLACE

TOPOGRAPHIC SURVEY

LOS ANGELES, CA

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
17530 Von Karman Ave. - Suite 200 Tel (949) 756-6440
Irvine, California 92614

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TF SHATTO LP
450 SW MARINE DRIVE,
VANCOUVER, BC V5X 0C3
TOWNLINE

SHATTO & 6TH
514-550 SHATTO PLACE
LOS ANGELES, CA # 2023-0431

CONCEPTUAL DESIGN
FEBRUARY 27, 2024

50'-0"
0 12 1/2 25 50

TOPOGRAPHIC SURVEY

A0-3

ATTACHMENT D

TREE DISCLOSURE FORM

APPLICATIONS

TREE DISCLOSURE STATEMENT

Los Angeles Municipal Code (LAMC) Section 46.00 requires disclosure and protection of certain trees located on private and public property, and that they be shown on submitted and approved site plans. Any discretionary application on a property that includes changes to the building footprint or any other change to the areas of the property not currently built upon or paved, including demolition, grading, or fence permit applications, or any discretionary change that could potentially remove or affect trees or shrubs, shall provide a Tree Disclosure Statement completed and signed by the Property Owner.

If the Tree Disclosure Statement indicates that there are any protected trees or protected shrubs on the project site and/or any trees within the adjacent public right-of-way that may be impacted or removed as a result of the project, a Tree Report (CP-4068) will be required, and the field visit must be conducted by a qualified Tree Expert, prepared and conducted within the last 12 months.

Property Address: 514-550 Shatto Place, Los Angeles, CA 90020

Date of Field Visit: April 3, 2024

Does the property contain any of the following protected trees or shrubs?

☐ **Yes** (Mark any that apply below)

- ☐ Oak, including Valley Oak (*Quercus lobota*) and California Live Oak (*Quercus agrifolia*) or any other tree of the oak genus indigenous to California, but excluding the Scrub Oak
- ☐ Southern California Black Walnut (*Juglans californica*)
- ☐ Western Sycamore (*Platanus racemosa*)
- ☐ California Bay (*Umbellularia californica*)
- ☐ Mexican Elderberry (*Sambucus mexicana*)
- ☐ Toyon (*Heteromeles arbutifolia*)

☑ **No**

Does the property contain any street trees in the adjacent public right-of-way?

☑ **Yes** ☐ **No**

Does the project occur within the Mt. Washington/Glassell Park Specific Plan Area and contain any trees 12 inches or more diameter at 4.5 feet above average natural grade at base of tree and/or is more than 35 feet in height?

☐ **Yes** ☑ **No**

Does the project occur within the Coastal Zone and contain any of the following trees?

- ☐ **Yes** (Mark any that apply below)
  - ☐ Blue Gum Eucalyptus *(Eucalyptus globulus)*
  - ☐ Red River Gum Eucalyptus *(Eucalyptus camaldulensis)*
  - ☐ Other Eucalyptus species
- ☑ **No**

Have any trees or shrubs been removed in the last two years?

☐ **Yes** ☑ **No**

If Yes, were any protected species (as listed in Ordinance No. 186,873)?

☐ **Yes** ☐ **No**

*If Yes, provide permit information:*______________________________________

Tree Expert Credentials (if applicable)

Name of Tree Expert: Trevor Bristle

Mark which of the following qualifications apply:

- ☐ Certified arborist with the International Society of Arboriculture who holds a license as an agricultural pest control advisor
- ☐ Certified arborist with the International Society of Arboriculture who is a licensed landscape architect
- ☑ Registered consulting arborist with the American Society of Consulting Arborists

Certification/License No.: Registered Consulting Arborist No. 746

Owner's Declaration

I acknowledge and understand that knowingly or negligently providing false or misleading information in response to this disclosure requirement constitutes a violation of the Los Angeles Municipal Code Section 46.00, which can lead to criminal and/or civil legal action. I certify that the information provided on this form relating to the project site and any of the above trees and/or biological resources is accurate to the best of my knowledge.

Name of the Owner (Print) Chase Pense

Owner Signature ________________ Date 4/23/2024

Appendix C
Cultural Assessment

Confidential – Not For Public Distribution

514-550 SHATTO PLACE PROJECT, CITY OF LOS ANGELES, CALIFORNIA

Paleontological Resources Assessment Report Addendum

Prepared for

Holland & Knight
400 S. Hope Street, 8th Street
Los Angeles, California 90071

September 2020

Confidential – Not For Public Distribution

514-550 SHATTO PLACE PROJECT, CITY OF LOS ANGELES, CALIFORNIA

Paleontological Resources Assessment Report Addendum

Prepared for:
Holland & Knight
400 S. Hope Street, 8th Street
Los Angeles, California 90071

September 2020

Prepared by:
ESA
626 Wilshire Blvd. Suite 1100
Los Angeles, CA 90017

Project Director:
Monica Strauss, M.A., RPA

Project Manager:
Sara Dietler

Paleontological Principal Investigator and Report Author:
Alyssa Bell, Ph.D.

Project Location:
Hollywood (CA) USGS 7.5 minute Topographic Quad; Township 1 South, Range 13 West, Section 19

Assessor Parcel Number: 5077-004-033

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Suite 1100
Los Angeles, CA 90017
213.599.4300
www.esassoc.com

ESA

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D170958.00

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514-550 Shatto Place Project – Paleontological Resources Assessment Report-Addendum

Appendices

List of Figures

Introduction

The expanded Project Site is located at 514-550 Shatto Place Project (Project) (alternative address: 3119 W. 6th Street; APNs 5077-004-025 and 5077-004-033) within the Wilshire Community Plan Area of Los Angeles, in support of a Sustainable Communities Environmental Assessment. The Applicant proposes to develop a mixed-use residential and commercial property in the City of Los Angeles (City). The City is the lead agency for the Project pursuant to the California Environmental Quality Act (CEQA). This report provides a paleontological sensitivity assessment for the expanded Project Site based on the data collected and assessment provided in the *Paleontological Resources Assessment*, (ESA, November 2018) in support of the Draft Environmental Impact Report (DEIR).

ESA personnel involved in the preparation of this report are as follows: Monica Strauss, M.A., RPA, Project Director; Sara Dietler, B.A., Project Manager; Alyssa Bell, Ph.D., Paleontological Principal Investigator and report author; and Jessie Lee, GIS specialist. Resumes of key personnel are included in **Appendix A**.

Project Location

The 1.52-acre Project Site is located within the Koreatown neighborhood in the City of Los Angeles (**Figure 1**). The Project is situated at 514, 522, 530, and 550 S. Shatto Place (also known as 3119 W. 6th Street) and is comprised of four lots (Assessor Parcel Numbers 5077-004-025 and 5077-004-033). It is bound on the north by office uses, on the south by 6th Street, on the east by commercial and residential uses, and on the west by Shatto Place. Specifically, the Project Site is situated in Section 19 of Township 1 South, Range 13 West on the Hollywood, CA U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (**Figure 2**).

Description of Modified Project

TF Shatto LP, the Applicant, proposes to develop a mixed-use development project known as 514-550 S. Shatto Place (Project) on an approximately 66,411-square-foot (1.52-acre) site (Project Site) in the Wilshire Community Plan area of the City. The Project Site is located at 514, 522, 530, and 550 South Shatto Place, and 3119 West 6th Street, and is composed of four lots with the Assessor Parcel Numbers (APN) 5077-004-025 and 5077-004-033. The area is characterized by a mixture of commercial, institutional, and residential uses in a variety of scales and from various periods of development, including new Los Angeles County facilities to the west. The Project Site is bounded by Shatto Place on the west and West 6th Street on the south. Immediately to the east are residential uses, and beyond that is South Westmoreland Avenue. Immediately to the north are office uses, and farther to the north is West 5th Street. The Project Site is currently occupied by the New Covenant Academy, a private school serving grades K–12, and a four-story office building. The Project Site is developed with an approximately 12,800-square-foot "L-shaped" former church building (church building) that fronts West 6th Street. It was originally constructed for the First English Evangelical Lutheran Church, and currently used by the New Covenant Academy as a basketball court; a one-story school classroom building; a two-story classroom building; a restroom and storage facilities; and surface parking. At 514 S. Shatto, there is a four story, concrete-framed, mid-rise, multi-tenant office building with at-grade parking. The total amount of existing development on the Project Site is approximately 47,031 square feet gross area. Except for the existing former church building, all existing buildings on the Project Site will be demolished.

On the northern portion of the Project Site, the Project would include a new high-rise building containing 367 residential units over a two-story, L-shaped podium. The Project Site is currently occupied by the New Covenant Academy, a private school serving grades K–12, and a four-story office building. The Project Site is developed with an approximately 12,800-square-foot "L-shaped" former church building (church building) that fronts West 6th Street. It was originally constructed for the First English Evangelical Lutheran Church, and currently used by the New Covenant Academy as a basketball court; a one-story school classroom building; a two-story classroom building; a restroom and storage facilities; and surface parking. At 514 S. Shatto, there is a four story, concrete-framed, mid-rise, multi-tenant office building with at-grade parking. The total amount of existing development on the Project Site is approximately 47,031 square feet gross area. Except for the existing former church building, all existing buildings on the Project Site will be demolished.

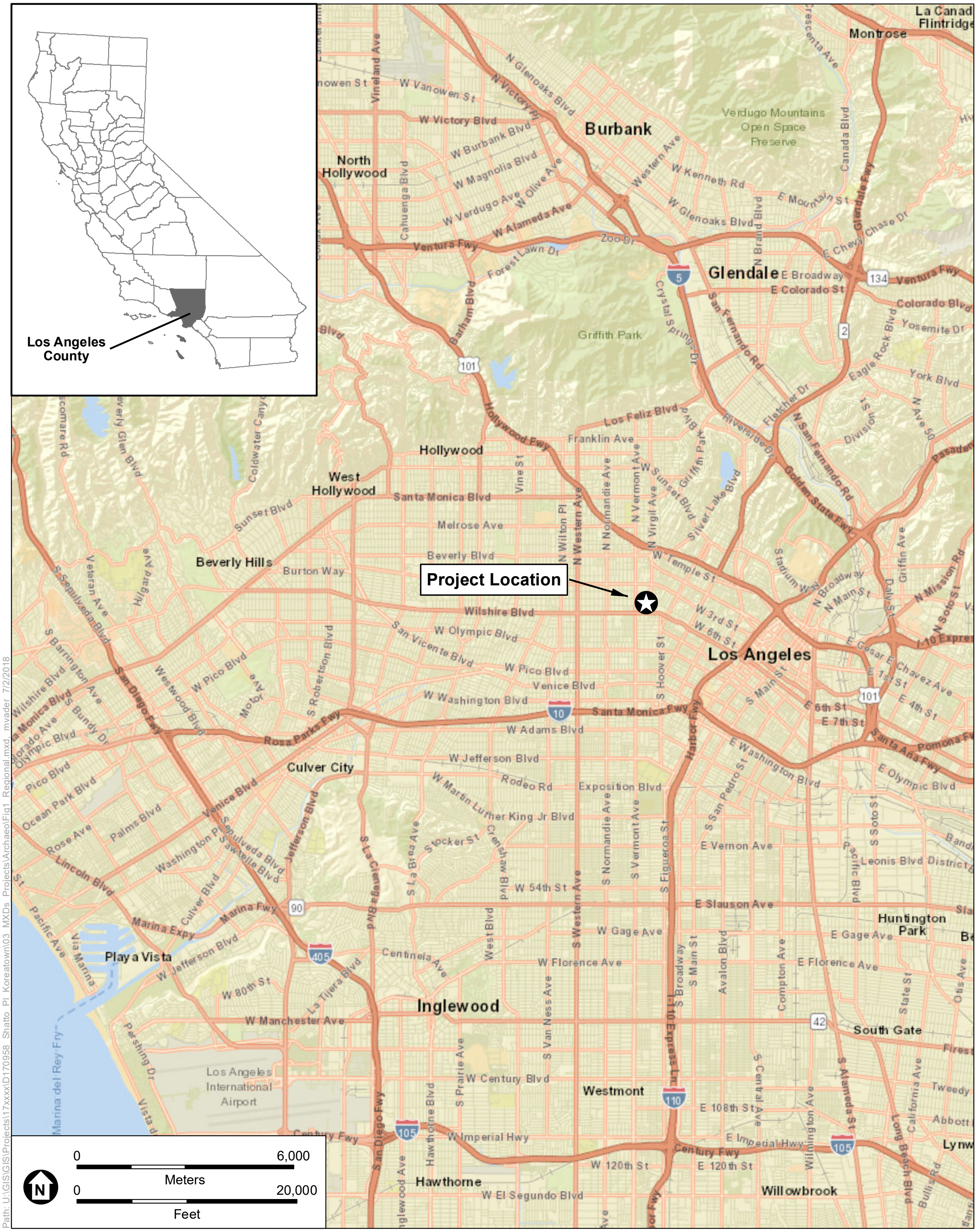
On the northern portion of the Project Site, the Project would include a new high-rise building containing 367 residential units over a two-story, L-shaped podium. On the ground floor, a publicly accessible landscaped plaza of approximately 14,650 square feet of area is centered on the Project Site. At the corner of Shatto Place and West 6th Street, perimeter landscaping and restaurant uses would surround the church structure. In total, the Project would provide approximately 146,103 square feet of open space of which, 33,019 square feet would be Los Angeles Municipal Code (LAMC)-credited open space. In the private balconies, approximately 91,300 square feet of outdoor space is provided, of which 16,509 square feet would be LAMC-credited private open space.

Up to approximately 470 vehicle parking spaces would be located within four subterranean levels and at the ground level. The subterranean parking would be located directly below the new residential and commercial components; no subterranean parking would be located below the retrofitted former church building. Bicycle parking spaces pursuant to the LAMC would be provided on-site. The residential parkade entrance and drop-off would be accessed from the main driveway on Shatto Place near the north property line. Vehicle access to loading areas for the residential tower and restaurant would be from a service entrance along West 6th Street. There would also be a passenger loading/drop-off location accessed via a driveway off Shatto Place northerly of the new central plaza.

Revisions of the Adaptive Re-use of First English Evangelical Lutheran Church

The Modified Project, like the Approved Project, will rehabilitate the former First English Evangelical Lutheran Church building for new use as restaurant space.

The alterations to the church building as proposed in the Modified Project differ from the Approved Project in four elements: the Modified Project omits the exterior elevator and lobby addition on the north façade, proposed by the Approved Project, and instead installs an interior elevator within the former First English Evangelical Lutheran Church building; the Modified Project adds a metal-and-glass screen at the north façade of the former Church building to highlight the entrance from the parking garage elevator to the church; the Modified Project expands the proposed new openings on the north façade to accommodate wide, bi-folding glass doors to open the former sanctuary to a new outdoor dining area; and the Modified Project adds a new second floor within the double-height nave of the former Church. Maximum excavation depths related to the construction of the Project is expected to extend 65 feet below existing surface.



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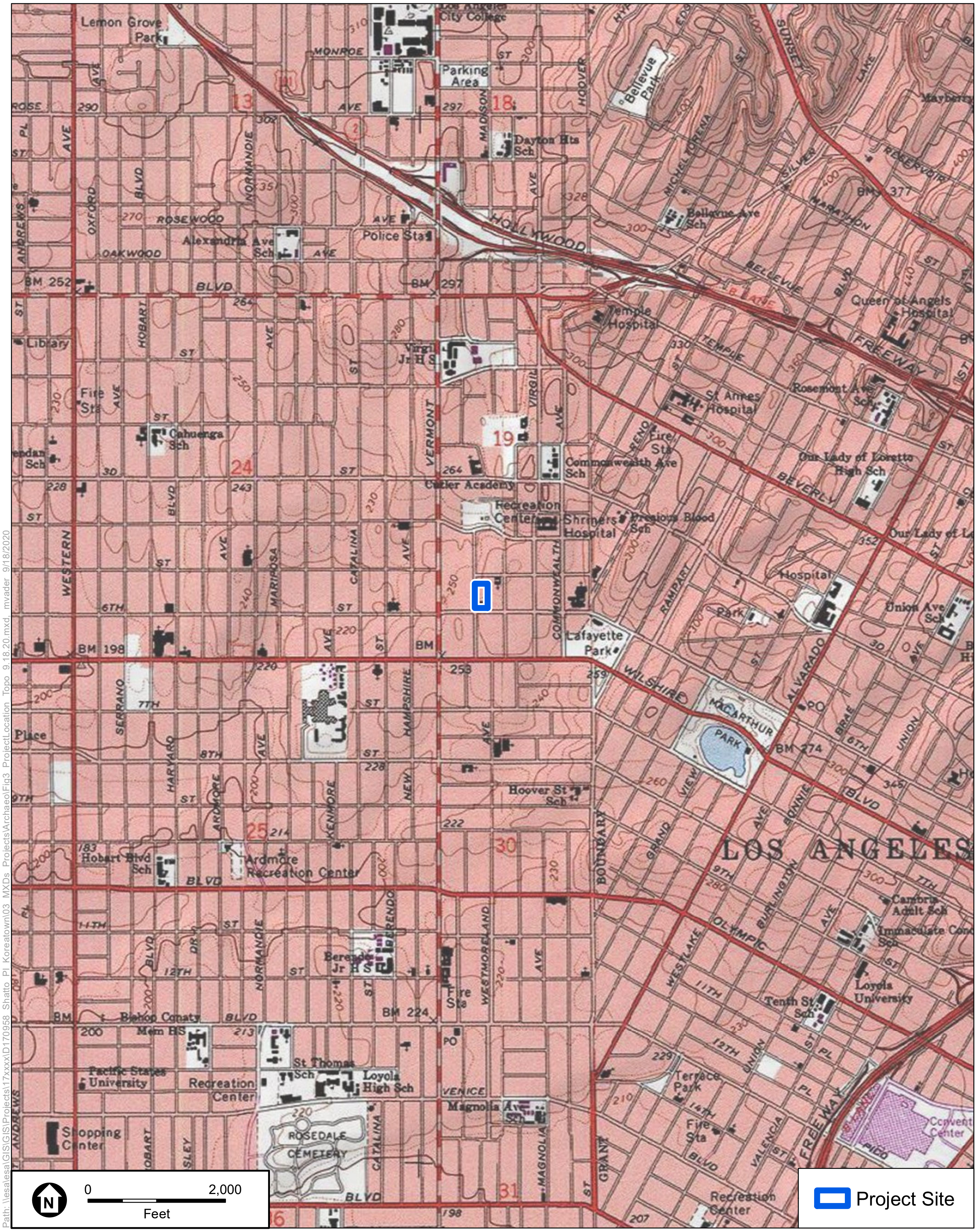
SOURCE: ESRI

Shatto Place Koreatown

Figure 1
Regional Location Map

ESA



SOURCE: USGS 7.5' Topo Quad Hollywood 1978, 1982

Shatto Place Koreatown

Figure 2 Project Location

ESA

Regulatory Framework

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value that are afforded protection under state laws and regulations. The following section summarizes the applicable federal and state laws and regulations, as well as professional standards provided by the Society of Vertebrate Paleontology (SVP).

State

California Environmental Quality Act

The CEQA Guidelines (Title 14, Chapter 3 of the California Code of Regulations, Section 15000 *et seq*.), define the procedures, types of activities, individuals, and public agencies required to comply with CEQA. As part of CEQA's Initial Study process, one of the questions that must be answered by the lead agency relates to paleontological resources: "Will the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" (CEQA Guidelines Section 15023, Appendix G, Section XIV, Part a).

The loss of any identifiable fossil that could yield information important to prehistory, or that embodies the distinctive characteristics of a type of organism, environment, period of time, or geographic region, would be a significant environmental impact. Direct impacts to paleontological resources primarily concern the potential destruction of nonrenewable paleontological resources and the loss of information associated with these resources. This includes the unauthorized collection of fossil remains. If potentially fossiliferous bedrock or surficial sediments are disturbed, the disturbance could result in the destruction of paleontological resources and subsequent loss of information (significant impact). At the project-specific level, direct impacts can be mitigated to a less than significant level through the implementation of paleontological mitigation.

The CEQA threshold of significance for a significant impact to paleontological resources is reached when a project is determined to "directly or indirectly destroy a significant paleontological resource or unique geologic feature." In general, for project sites that are underlain by paleontologically sensitive geologic units, the greater the amount of ground disturbance, the higher the potential for significant impacts to paleontological resources. For project sites that are directly underlain by geologic units with no paleontological sensitivity, there is no potential for impacts on paleontological resources unless sensitive geologic units which underlie the non-sensitive unit are also affected.

Public Resources Code Section 5097.5 and Section 30244

Other state requirements for paleontological resource management are included in Public Resources Code Section 5097.5 and Section 30244. These statutes prohibit the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to paleontological resources from developments on public (state, county, city, district) lands.

Local

City of Los Angeles General Plan

The Conservation Element of the City of Los Angeles General Plan recognizes paleontological resources in Section 3: "Archeological and Paleontological" (II-3), specifically the La Brea Tar Pits, and identifies protection of paleontological resources as an objective (II-5). The General Plan identifies site protection as important, stating:

> *Pursuant to CEQA, if a land development project is within a potentially significant paleontological area, the developer is required to contact a bona fide paleontologist to arrange for assessment of the potential impact and mitigation of potential disruption of or damage to the site. If significant paleontological resources are uncovered during project execution, authorities are to be notified and the designated paleontologist may order excavations stopped, within reasonable time limits, to enable assessment, removal or protection of the resources. (City of Los Angeles, 2001)*

City of Los Angeles CEQA Thresholds of Significance

The City of Los Angeles' CEQA Thresholds of Significance Guide (City of Los Angeles, 2006) Section D:1 specifies that the determination of significance for paleontological resources shall be made on a case-by-case basis, taking into consideration the following factors:

- Whether, or the degree to which, the project might result in the permanent loss of, or loss of access to, a paleontological resource; and
- Whether the paleontological resource is of regional or statewide significance. Professional Standards

Society of Vertebrate Paleontology

The SVP has established standard guidelines (SVP, 1995, 2010) that outline professional protocols and practices for conducting paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional vertebrate paleontologists adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most state regulatory agencies with paleontological resource-specific Laws, Ordinances, Regulations, and Standards (LORS) accept and use the professional standards set forth by the SVP.

As defined by the SVP (1995:26), significant nonrenewable paleontological resources are:

> *Fossils and fossiliferous deposits here restricted to vertebrate fossils and their taphonomic and associated environmental indicators. This definition excludes invertebrate or paleobotanical fossils except when present within a given vertebrate assemblage. Certain invertebrate and plant fossils may be defined as significant by a project paleontologist, local paleontologist, specialists, or special interest groups, or by lead agencies or local governments.*

As defined by the SVP (1995:26), significant fossiliferous deposits are:

> *A rock unit or formation which contains significant nonrenewable paleontologic resources, here defined as comprising one or more identifiable vertebrate fossils, large or small, and any associated invertebrate and plant fossils, traces, and other data that provide taphonomic, taxonomic, phylogenetic, ecologic, and stratigraphic information (ichnites and trace fossils generated by vertebrate animals, e.g., trackways, or nests and middens which provide datable material and climatic information). Paleontologic resources are considered to be older than recorded history and/or older than 5,000 years BP [before present].*

Based on the significance definitions of the SVP (1995), all identifiable vertebrate fossils are considered to have significant scientific value. This position is adhered to because vertebrate fossils are relatively uncommon, and only rarely will a fossil locality yield a statistically significant number of specimens of the same genus. Therefore, every vertebrate fossil found has the potential to provide significant new information on the taxon it represents, its paleoenvironment, and/or its distribution. Furthermore, all geologic units in which vertebrate fossils have previously been found are considered to have high sensitivity. Identifiable plant and invertebrate fossils are considered significant if found in association with vertebrate fossils or if defined as significant by project paleontologists, specialists, or local government agencies.

A geologic unit known to contain significant fossils is considered to be "sensitive" to adverse impacts if there is a high probability that earth-moving or ground-disturbing activities in that rock unit will either directly or indirectly disturb or destroy fossil remains. Paleontological sites indicate that the containing sedimentary rock unit or formation is fossiliferous. The limits of the entire rock formation, both areal and stratigraphic, therefore define the scope of the paleontological potential in each case (SVP, 1995).

Fossils are contained within surficial sediments or bedrock, and are therefore not observable or detectable unless exposed by erosion or human activity. In summary, paleontologists cannot know either the quality or quantity of fossils prior to natural erosion or human-caused exposure. As a result, even in the absence of surface fossils, it is necessary to assess the sensitivity of rock units based on their known potential to produce significant fossils elsewhere within the same geologic unit (both within and outside of the study area), a similar geologic unit, or based on whether the unit in question was deposited in a type of environment that is known to be favorable for fossil preservation. Monitoring by experienced paleontologists greatly increases the probability that fossils will be discovered during ground-disturbing activities and that, if these remains are significant, successful mitigation and salvage efforts may be undertaken in order to prevent adverse impacts to these resources.

Paleontological Sensitivity

Paleontological sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey. In its "Standard Guidelines for the Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontologic Resources," the SVP (1995:23) defines four categories of paleontological sensitivity (potential) for rock units: high, low, undetermined, and no potential:

- **High Potential.** Rock units from which vertebrate or significant invertebrate fossils or suites of plant fossils have been recovered and are considered to have a high potential for containing significant nonrenewable fossiliferous resources. These units include, but are not limited to, sedimentary formations and some volcanic formations that contain significant nonrenewable paleontologic resources anywhere within their geographical extent and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical; and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Also classified as significant are areas that contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways.
- **Low Potential.** Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils. Such units will be poorly represented by specimens in institutional collections.
- **Undetermined Potential.** Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials.
- **No Potential.** Metamorphic and granitic rock units generally do not yield fossils and therefore have no potential to yield significant non-renewable fossiliferous resources.

For geologic units with high potential, full-time monitoring is generally recommended during any project-related ground disturbance. For geologic units with low potential, protection or salvage efforts will not generally be required. For geologic units with undetermined potential, field surveys by a qualified vertebrate paleontologist should be conducted to specifically determine the paleontologic potential of the rock units present within the study area.

Paleontological Resources Significance Criteria

Numerous paleontological studies have developed criteria for the assessment of significance of fossil discoveries (Eisentraut and Cooper, 2002; Murphey and Daitch, 2007). In general, these studies assess fossils as significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life; or
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

Significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer 2003, Scott et al. 2004).

Setting

Geological Setting

The Project Site is located in the Los Angeles Basin, a structural depression approximately 50 miles long and 20 miles wide in the northernmost Peninsular Ranges Geomorphic Province (Ingersoll and Rumelhart, 1999). The Los Angeles basin developed as a result of tectonic forces and the San Andreas fault zone, with subsidence occurring 18 – 3 million years ago (Mya) (Critelli et al., 1995). While sediments dating back to the Cretaceous (66 million years ago) are preserved in the basin, continuous sedimentation began in the middle Miocene (around 13 million years ago) (Yerkes et al., 1965). Since that time, sediments have been eroded into the basin from the surrounding highlands, resulting in thousands of feet of accumulation (Yerkes et al., 1965). Most of these sediments are marine, until sea level dropped in the Pleistocene and deposition of the alluvial sediments that compose the uppermost units in the Los Angeles Basin began.

Methodology

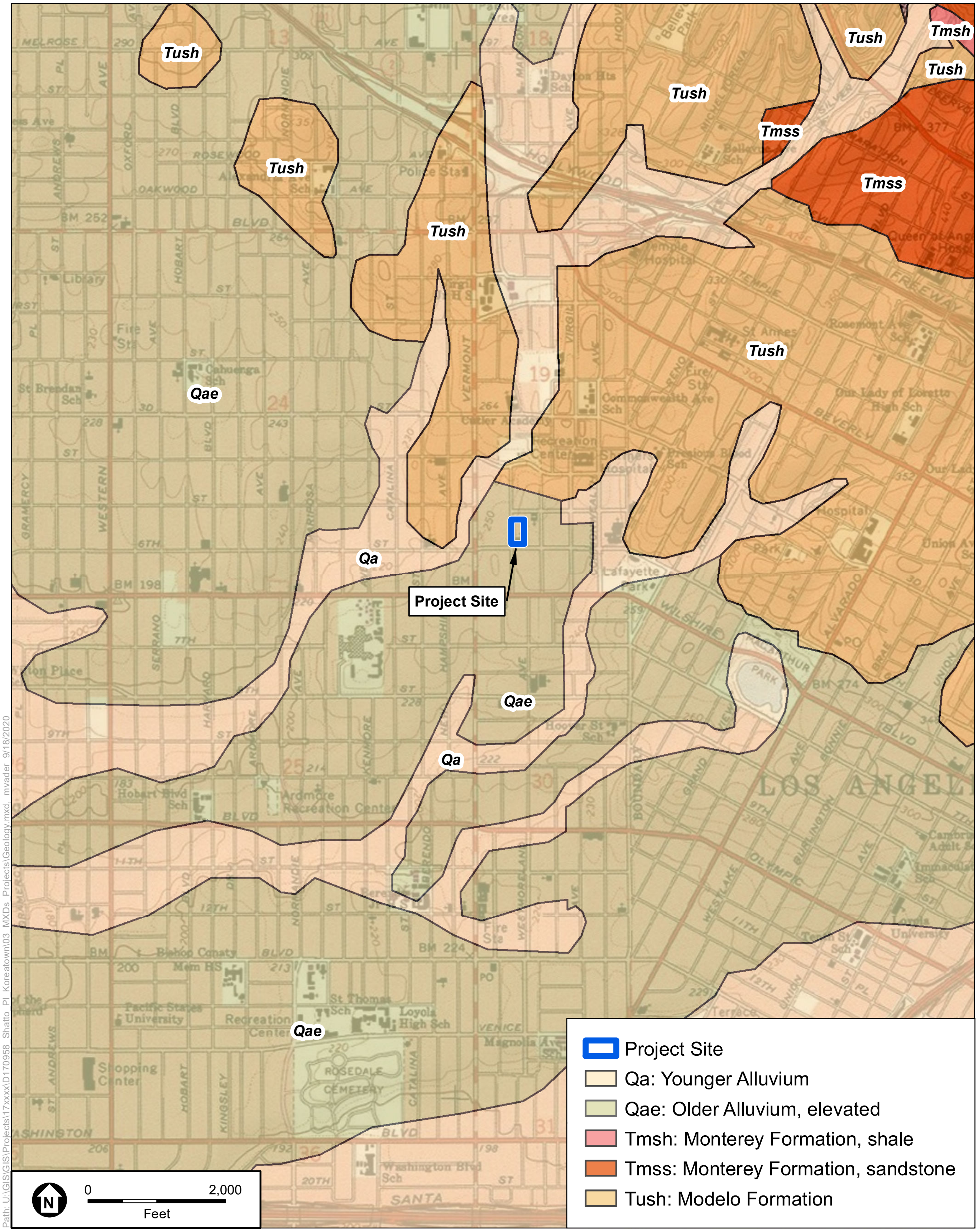
Methodology

The Project Site for the 550 S. Shatto Place was evaluated in the *Paleontological Assessment Report* for the Approved Project and is not re-evaluated as part of this report. Data including a LACM record search and geological literature review obtained for the Approved Project was utilized to complete the assessment of the Expanded Project Site.

Archival Research

Geological Map and Literature Review

The literature review and geological mapping by Dibblee and Ehrenspeck (1991) indicates that the surficial geology of the Project Site consists of Older Quaternary Alluvium (mapped as Qae in **Figure 3**), with outcrops of marine shale indentified alternately as Modelo or Puente formation (Tush) present to the north of the Project Site. These units and their fossil record are discussed below.



SOURCE: USGS 7.5' Topo Quad Hollywood.

Shatto Place Koreatown

Figure 3
Geology

Older Quaternary Alluvium (Qae). These sediments consist of alluvial clay, sand, and gravel deposited as alluvial fan sediments derived from the Verdugo Mountains and deposited during the late Pleistocene (around 140,000 to 11,700 years ago) (Dibblee and Ehrenspeck, 1991). These sediments are of an age to preserve fossil resources (i.e., older than 5,000 years old, as determined by the SVP [2010]), and are well known for preserving significant fossils throughout the Los Angeles Basin (Jefferson, 1991a, 1991b). Iconic Ice Age animals such as mammoths, horse, camel, bison, sabertooth cat, wolf, and others, as well as abundant small animals such as rodents, birds, lizards, and snakes have been found from Pleistocene-aged alluvium throughout Los Angeles (e.g. Brattstrom and Sturn, 1959; Graham and Lundelius, 1994; Steadman, 1980). In addition to illuminating the striking differences between Southern California in the Pleistocene and today, this abundant fossil record has been vital in studies of extinction (e.g. Sandom, et al., 2014; Scott, 2010), ecology (e.g. Connin et al., 1998), and climate change (e.g. Roy et al., 1996).

Modelo/Puente Formation (Tush). The unnamed shale present at the surface to the north of the Project Site has been alternately assigned to the Puente Formation or to the Modelo Formation (Dibblee and Ehrenspeck, 1991). These sediments consist of thin-bedded silty clay shale with laminae of fine-grained, soft sandstone (Dibblee and Ehrenspeck, 1991). Due to the proximity of these outcrops (as little as 0.2 miles to the northeast of the project site), it is likely this unit is present in the subsurface of the Project Site at an undetermined depth. The Modelo/Puente dates to the late Miocene (approximately 5 to 11 million years ago) and records sediment filling during the marine phase of the Los Angeles Basin. A wide variety of significant fossils, such as cephalopods (Saul and Stadum, 2005), crustaceans (Feldmann, 2003), fishes (Carnevale et al., 2008; Huddleston and Takeuchi, 2006), and other marine and terrestrial vertebrates (Barboza et al., 2017; Leatham and North, 2017) are known from this unit in the region.

Review of Geotechnical Investigation

A review of the geotechnical investigation report from the Approved Project and Expanded Project (Geotechnologies, Inc., 2017, 2018, 2020) indicates that the Project Site is located within the City of Los Angeles Oil Field; however, no oil wells have been previously drilled at the Approved Project Site. There was one geotechnical boring completed from within the Expanded Project Site which was added in 2020. The underlying formations are the same and the disturbance at the Expanded Project Site is similar to the Approved Project Site. As part of the Approved Project Site investigation, two borings were drilled within the northern portion of the Approved Project Site, both reaching depths of 67 feet bgs. The boring data indicates that the Expanded and Approved Project Sites are underlain by fill soil (silty sand and sandy silt) to a depth of 3 to 5 feet. Old Alluvium was encountered beneath the fill to depths between 25 and 34 feet at the Expanded Project site and between 32.5 and 34 feet bgs at the Approved Site. Sedimentary bedrock of the Puente Formation was encountered beneath the old Alluvium to the terminal depths of all the borings. In 2019, due to changes in the project description including the redesign from a 20 story tower to a 31 story tower and an additional level of subterranean parking for a total of four levels. Finally, the existing church repurposing was added to the project description as well. For the 2019 study two borings were drilled down to a depth of 110 feet and 30 below the existing site grade. Three test pits were also hand excavated. The levels of fill in the new borings is consistent with the 2017 and 2018 studies with a maximum depth of five feet. Old

Alluvium was also recorded to 32.5 to 34 feet in depth. Finally, the bedrock encountered to the maximum depth of the borings was the Puente Formation, again consistent with the previous studies, and consistent with the 2020 boring.

LACM Database Search

On April 20, 2018, ESA requested a database search from the Natural History Museum of Los Angeles County (LACM) for records of fossil localities in the Project Site. The purpose of the museum database search was to: (1) determine whether any previously recorded fossil localities occur in the Project Site, (2) assess the potential for disturbance of these localities during construction, and (3) evaluate the paleontological sensitivity in the Project Site. The database search does not indicate any known localities within the Expanded Project site; however, a number of vertebrate fossils are known from similar sedimentary deposits in Los Angeles (McLeod, 2018), and these are summarized below. The results of the database search are included as **Appendix B**.

Older Quaternary Alluvium (Qae). The LACM has records of a number of fossil localities found in Older Quaternary Alluvium (late Pleistocene) across the Los Angeles Basin. The closest locality is LACM 6024, located just under 1 mile to the southwest of the Project Site (near the intersection of Wilshire Boulevard and Serrano Avenue), where a specimen of mammoth (*Mammuthus*) was collected from 65 feet below ground surface (bgs) (McLeod, 2018). Other localities in the vicinity of the Project Site include LACM 5845 and LACM 3250. LACM 5845 is situated approximately 1.3 miles northwest of the Project Site (near the intersection of Western Avenue and Council Street), where a mastodon (*Mammutidae*) was collected from 5 to 6 feet bgs. LACM 3250 is located approximately 1-mile north of the Project Site, where a mammoth (*Mammuthus*) was collected from 8 feet bgs (McLeod, 2018).

Modelo/Puente Formation (Tush). The LACM has records of a number of fossil localities in the Modelo/Puente formations. The closest known localities are LACM 6202 and 6203, located approximately 0.15 miles southwest of the Project Site, where dozens of marine fossils were collected from 60 to 80feet bgs (McLeod, 2018). Specimens were identified as belonging to 29 fish families, including eels, needlefishes, herrings, cods, hajes, lanternfishes, tunas, groupers, rockfishes, and many others (McLeod, 2018).

Paleontological Sensitivity Analysis

The results of the scientific literature review and geological map, as well as the review of the geotechnical report and database search from the LACM, have been used to assign the SVP's paleontological sensitivity rankings to the geologic units present at the surface or in the subsurface of the Project Site.

Artificial Fill (af). Although not mapped within the Project Site, the geotechnical report indicates that fill is present from surface to 5 feet bgs on the Approved Project Site. The Expanded Project Site is similar with fill from 3 to 5 feet in depth. Artificial fill consists of sediment and rubble that is the result of human activity. As such, these sediments are not natural and have **no paleontological sensitivity**.

Older Quaternary Alluvium (Qae). The extensive fossil record of known localities in Pleistocene alluvium from the Los Angeles Basin indicates that this unit has **high paleontological sensitivity**. There are localities from depths as shallow as 5 feet bgs within 1.5 miles of the Expanded Project Site. The geotechnical investigation of the Approved Project Site indicates that area is underlain by 3 to 5 feet of fill and that Old Alluvium was encountered beneath the fill to depths between 32.5 and 34 feet bgs, and between 25 to 34 feet in the Expanded Site. Sedimentary bedrock of the Puente Formation was encountered beneath the Old Alluvium to 67 feet (the terminal depths of the geotechnical borings). Therefore, any excavations between approximately 5 to 30 feet in depth may encounter fossil resources related to the Older Quaternary Alluvium.

Modelo/Puente Formation (Tush). The extensive fossil record of known localities in the Modelo or Puente Formation from the Los Angeles Basin indicates that this unit has **high paleontological sensitivity**. There are localities are from depths of 60 to 80feet bgs less than 1 mile from the Expanded Project Site. Based on a review of the geotechnical investigation provided above, the Modelo/Puente Formation within the Approved Project Site, and due to its proximity to the Expanded Project Site will likely be similar, and the Modelo/Puente Formation will be encountered between 32.5 and 34 feet bgs to at least 67 feet bgs (the terminal depth of geotechnical borings). Therefore, any excavations exceeding approximately 30 feet in depth may encounter fossil resources related to the Modelo or Puente Formation.

Conclusions and Recommendations

Conclusions

The findings of this assessment indicate that any Project-related excavation below 5 feet has the potential to encounter geologic units with high paleontological sensitivity. Older Quaternary alluvium, which has a history of preserving significant late Pleistocene fossil resources in the Los Angeles Basin, is known to be present within the Project Site at depths of approximately 5 to 30 feet bgs. Additionally, the Modelo or Puente Formation, which has a history of preserving significant late Miocene fossil resources in the Los Angeles Basin, is known to be present within the Project Site at depths of approximately 30 to 67 feet bgs (the terminal depth of geotechnical borings). Since Project-related excavation is expected to extend to 65 feet below existing surface, it could encounter paleontological resources below 5 feet and result in a potentially significant impact to unique paleontological resources.

Recommendations

Impacts to unique paleontological resources could occur if Project-related ground disturbance encounters geologic units with high paleontological sensitivity. The following mitigation measures are recommended in order to reduce impacts to unique paleontological resources to a less than significant level under CEQA:

1. **Retention of a Qualified Paleontologist.** A qualified paleontologist meeting the Society of Vertebrate Paleontology (SVP) Standards (SVP, 2010) (Qualified Paleontologist) shall be retained prior to the approval of demolition or grading permits. The Qualified Paleontologist shall provide technical and compliance oversight of excavation and grading during construction, recovery of fossil materials, and reporting, related to paleontological resources, shall attend the Project kick-off meeting and Project progress meetings on a regular basis, and shall report to the site in the event potential paleontological resources are encountered.
2. **Construction Worker Paleontological Resources Sensitivity Training.** The Qualified Paleontologist shall conduct construction worker paleontological resources sensitivity training prior to the start of ground disturbing activities (including vegetation removal, pavement removal, etc.). In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the Project Site and the procedures to be followed if they are found. The City shall retain documentation demonstrating that all construction personnel attended the training.
3. **Paleontological Resources Monitoring.** Full-time paleontological resources monitoring shall be conducted for all ground-disturbing activities that exceed 5 feet in depth. Full-time monitoring can be reduced to part-time inspections or ceased entirely if determined adequate by the Qualified Paleontologist. Paleontological resources monitoring shall be performed by a qualified paleontological monitor (meeting the standards of the SVP) under the direction of the Qualified Paleontologist. Monitors shall have the authority to temporarily halt or divert work away from exposed fossils in order to recover the fossil specimens. Any significant fossils collected during Project-related excavations shall be prepared to the point of identification and curated into an accredited repository with retrievable storage. Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries. The Qualified Paleontologist shall prepare a final monitoring and mitigation report to document the results of the monitoring effort.
4. If construction or other Project personnel discover any potential fossils during construction, regardless of the depth of work or location, work at the discovery location shall cease in a 25-foot radius of the discovery until the Qualified Paleontologist has assessed the discovery and made recommendations as to the appropriate treatment. If the find is deemed significant, it shall be salvaged following the standards of the SVP (SVP, 2010) and curated with a certified repository.

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Appendix A
Personnel

ESA

Alyssa Bell, PhD

Paleontologist

EDUCATION

Ph.D., Vertebrate Paleontology; University of Southern California

M.S., Environmental Microbiology; University of Tennessee

B.A. with honors, Ecology and Systematics; William Jewell College & Homerton College, Cambridge University

10 YEARS EXPERIENCE

Dr. Alyssa Bell has supervised and peformed field work, authored project reports, and provided scientific and compliance direction and quality control for paleontological projects throughout Southern California. Dr. Bell has accumulated a wealth of field experience, working with crews from a variety of institutions on field sites in California, Arizona, New Mexico, South Dakota, and Utah, and has led her own expeditions in Montana. She has performed all manner of investigations from surveys and assessments to monitoring and fossil idenfitication over the last 15 years as a part of her academic pursuits and professional consultation, with the last three years being exclusively professional endeavors.

In addition to consulting, Dr. Bell serves as a postdoctoral fellow at the Dinosaur Institute of the Natural History Museum of Los Angeles County (LACM). There she is involved in pursuing her own research into fossil birds as well as working with the Institute's field projects and museum-wide education and outreach initiatives. She has also published peer-reviewed articles and book chapters and given numerous presentations at scientific conferences on both her paleontological and microbiological research.

Relevant Experience

ICHA Area 10 (PA 10-2 & 10-4) Archaeological and Paleontological Monitoring, Irvine, CA. *Principal Investigator & Project Paleontologist.* Dr. Bell managed the curatorial process for fossils collected during monitoring of pre-construction activities at the University of California, Irvine, and authored the final report.

Suncrest Reactive Power Support Project, San Diego County, CA. *Principal Investigator.* Dr. Bell authored the paleontological assessment for the Proponent's Environmental Assessment (PEA) in support for a dynamic reactive power support facility and associated 230-kilovolt (kV) transmission line near Alpine, California. The application for Certificate of Public Convenience and Necessary was filed in summer 2015 and the PEA was deemed complete in December 2015.

Washington National Archaeological and Paleontological Monitoring (Access Culver City), Culver City, CA. *Principal Investigator & Project Paleontologist.* Dr. Bell managed the curatorial process for fossils collected during monitoring of pre-construction activities at the Washington national site in Culver City, CA and authored the final report.

OTO Hotels Santa Monica Archaeological and Paleontological Service, Santa Monica, CA. *Principal Investigator.* Dr. Bell supervised paleontological monitoring and mitigation services during construction excavations and grading. Services included implementation of a paleontological mitigation monitoring program and reporting.

Sacred Heart Specific Plan Environmental Impact Report (EIR), La Canada Flintridge, CA. *Principal Investigator.* Dr. Bell prepared paleontological studies and developed monitoring & mitigation recommendations for the Sacred Heart development project.

Sixth & Bixel Paleontological Monitoring Services Project, Los Angeles, CA. *Principal Investigator & Project Paleontologist.* Dr. Bell supervised paleontological monitoring of preconstruction activities in support of a development project encompassing two parcels in downtown Los Angeles. During these activities, monitors identified and recovered numerous significant vertebrate fossils. Dr. Bell supervised the excavation of fossilized whale remains discovered on-site, and oversaw the collection and curation of all fossil specimens.

Natural and Cultural Support for the Gordon Mull Subdivision EIR, Glendora, CA. *Principal Investigator.* Dr. Bell collected the necessary data to prepare the technical sections and mitigation recommendations to support an EIR prepared by another firm to address the Gordon Mull Subdivision in the city of Glendora. The project is proposes to redevelop a 71-acre, 19-lot located in the San Gabriel Foothills.

Lake Elsinore Lakeshore Town Center Permitting, Riverside County, CA. *Principal Investigator.* Dr. Bell provided paleontological studies and developed monitoring and mitigation recommendations for the Lake Elsinore Town Center project in Riverside County.

San Pedro Plaza Park - Phase III Archaeological Monitor, Los Angeles, CA. *Principal Investigator.* Dr. Bell identified fossils during the mitigation measurement-required archaeological monitoring of earthmoving activities in San Pedro Park Plaza. She is also responsible for curation of the fossil material and authorship of the paleontological section of the final report.

City of Hope Specific Plan and EIR, Duarte, CA. *Principal Investigator.* Dr. Bell provided paleontological resource studies for the City of Hope Specific Plan Project.

Blythe Solar Power Project, Units 1 & 2, Riverside County, CA. *Project Paleontologist.* Dr. Bell supervised paleontological monitoring of preconstruction activities for a solar photo-voltaic cell power-generating facility outside the city of Blythe. As a part of her role, she provided oversight and management of paleontological monitors and development of the final monitoring report.

Industrial Project Environmental Impact Report, Colton, CA. *Principal Investigator.* Dr. Bell provided a paleontological resources study for a six-acre industrial project site at the southwest corner of Agua Mansa Road and Rancho Avenue in the city of Colton.

Mojave Solar Project Paleontological Reporting, San Bernardino County, CA. *Principal Investigator.* Dr. Bell managed curation of fossil materials and authored the final report of paleontological monitoring services provided for construction activities in support of a solar field development project in San Bernardino County.

El Camino Real Bridge Replacement Environmental Services, Atascadero, CA. *Principal Investigator.* Dr. Bell provided environmental services, including preparation of all California Environmental Quality Act (CEQA)/National Environmental Policy Act (NEPA) documentation, technical studies, and permitting, for the replacement of the El Camino Real Bridge over Santa Margarita Creek in Atascadero.

Recycled Water Transmission Water Main Paleo Monitoring, Fresno, CA. *Principal Investigator.* Dr. Bell developed a monitoring and mitigation plan for the city of Fresno recycled water main construction project.

Shafter Wasco Irrigation District Natural and Cultural Resource Evaluations and Air Quality, Kern County CA. *Principal Investigator.* Dr. Bell provided paleontological studies and developed recommendations for the monitoring and mitigation of paleontological resources for the project.

Valentine EIR, Kern County, CA. *Principal Investigator.* Dr. Bell provided paleontological resources support for a 2,000-acre solar PV project in the Mojave Desert. Deliverables included comprehensive technical reports, GIS impact analysis, strategic and permitting support, and a paleontological field survey in the preparation of an EIR and other permitting requirements.

Valentine Solar EIR 115MW Supplemental Reports, Kern County, CA. *Principal Investigator.* Dr. Bell provided paleontological studies in support of changes to the previously established Valentine Solar project.

Valentine Solar Biological and Paleontological Study Updates, Rosamond, Kern County, CA. *Principal Investigator & Project Paleontologist.* Dr. Bell provided paleontological studies, carried out a paleontological survey, and developed monitoring and mitigation guidelines for the Valentine Solar project.

Field Research

2006-Present. The Dinosaur Institute, LACM. Coordinator and Team Leader on expeditions in Montana (Niobrara and Pierre Shale Formations) and Arizona (Chinle Formation). Field assistant on expeditions to Montana (Hell Creek Formation), Utah (Morrison Formation), Arizona (Chinle Formation), New Mexico (Kirtland Formation), and California (Aztec Sandstone). During this period approximately four-six weeks are spent in the field in various locations every year.

2015. Principal Investigator, Field Manager. SWCA Environmental Consultants. Supervision of all paleontological field work, including excavation of a partial whale fossil from a downtown Los Angeles construction site and numerous monitoring projects.

2014. University of Southern California. Field Assistant on an expedition to South Africa (Pre-Cambrian).

2005. Cambridge University. Field Assistant on an expedition in Badlands National Park, South Dakota (White River Group).

2002-2004. Montana State University Northern. Field Assistant on excavations in Montana (Judith River Formation).

Publications

Bell, A. and L. Chiappe, 2015. Identification of a new Hesperornithiform from the Cretaceous Niobrara Chalk and implications for ecologic diversity among early diving birds. PLOS One 10: e0141690.

Bell, A. and L. Chiappe, 2015. A species-level phylogeny of the Cretaceous Hesperornithiformes (Aves: Ornithuromorpha): implications for body size evolution among the earliest diving birds. Journal of Systematic Palaeontology 14: 239-251.

Liu, D., L. Chiappe, Y. Zhang, A. Bell, Q. Meng, Q. Ji, and X. Wang, 2014. An advanced, new long-legged bird from the Early Cretaceous of the Jehol Group (northeastern China): insights into the temporal divergence of modern birds. Zootaxa 3884: 253-266.

Bell, A. and L. Chiappe, 2011. Statistical approach for inferring the ecology of Mesozoic birds. Journal of Systematic Paleontology 9: 119-133.

Bell, A. and M.J. Everhart, 2011. Remains of small avians from a Late Cretaceous (Cenomanian) microsite in north central Kansas. Transactions of the Kansas Academy of Science 114: 115-123

O'Connor, J., L. Chiappe, and A. Bell, 2011. Pre-modern birds: avian divergences in the Mesozoic in Kaiser, G. and G. Dyke, Living Dinosaurs. Oxford: Wiley-Blackwell Publishing. pp. 39-114.

Bell, A., L.M. Chiappe, G.M. Ericksson, S. Suzuki, M. Watabe, R. Barsbold, and K. Tsogtbaatar, 2010. Description and ecologic analysis of Hollanda luceria, a Late Cretaceous bird from the Gobi Desert (Mongolia). Cretaceous Research 31: 16-26.

Bell, A., L. McKay, A. Layton, and D. Williams, 2009. Factors influencing the persistence of fecal Bacteroides in stream water. Journal of Environmental Quality 38: 1224-1232.

Bell, A. and M.J. Everhart, 2009. A new specimen of Parahesperornis (Aves: Hesperornithiformes) from the Smoky Hill Chalk (Early Campanian) of western Kansas. Transactions of the Kansas Academy of Science 112: 7-14.

Everhart, M.J. and A. Bell, 2009. A hesperornithiform limb bone from the basal Greenhorn Formation (Late Cretaceous; Middle Cenomanian) of north central Kansas. Journal of Vertebrate Paleontology 29: 952-956.

Conference Presentations

Bell, A., Y.-H.Wu, L. M. Chiappe, 2016. Use of morphometric data in taxonomy and functional morphology: a case study of modern and Cretaceous diving birds. 35th International Geological Congress. Cape Town, South Africa.

Bell, A., 2011. Inferring the ecology of extinct European birds from the Mesozoic and Tertiary. European Association of Vertebrate Paleontology. Heraklion, Crete.

Bell, A. and L.M. Chiappe, 2010. Identifying trends in avian ecomorphology. International Ornithological Congress. Sao Paulo, Brazil.

Bell, A., L.M. Chiappe, and J. O'Connor, 2009. Ecological diversity of Mesozoic birds: morphometric analysis with a phylogenetic perspective. Society of Vertebrate Paleontology. Bristol, United Kingdom.

Bell, A., Z.J. Tseng, and L. Chiappe, 2008. Diving mechanics of the extinct Hesperornithiformes: comparison to modern diving birds. Society of Vertebrate Paleontology. Cleveland, Ohio.

Bell, A., L. Chiappe, S. Susuki, and M. Watanabe, 2008. Phylogenetic and morphometric analysis of a new ornithuromorph from the Barun Goyot Formation, Southern Mongolia. Society of Avian Paleontology and Evolution. Sydney, Australia.

Bell, A., 2008. Diving mechanics of the extinct Hesperornithiformes: comparison to modern diving birds. CalPaleo. Sacramento, California.

Bell, A., L. McKay, A. Layton, D. Williams, 2007. Persistence of Bacteroides in surface water. American Society for Microbiology. Chicago, Illinois.

Bell, A., L. McKay, and A. Layton, 2006. Survival and transport of Bacteroides in streams. Geological Society of America, Southeastern Section. Knoxville, Tennessee.

Bell, A., L. McKay, and A. Layton, 2006. Survival and transport of Bacteroides in streams. American Water Resources Association, Tennessee Division. Nashville, Tennessee.

Bell, A., 2004. Avian phylogenetics: a combined molecular and morphological analysis. David Nelson Duke Colloquium. Kansas City, Missouri.

Sara Dietler

Archaeologist

EDUCATION

B.A., Anthropology, San Diego State University

19 YEARS EXPERIENCE

CERTIFICATIONS/ REGISTRATION

California BLM Permit, Principal Investigator, Statewide

Nevada BLM Permit, Paleontology, Field Agent, Statewide

PROFESSIONAL AFFILIATIONS

Society for American Archaeology (SAA)

Society for California Archaeology (SCA)

Sara is a senior archaeology and paleontology lead with 20 years of experience in cultural resources management in Southern California. As a senior project manager, she manages technical studies including archaeological and paleontological assessments and surveys, as well as monitoring and fossil salvage for many clients, including public agencies and private developers. She is a cross-trained paleontological monitor and supervisor, familiar with regulations and guidelines implementing the National Historic Preservation Act (NHPA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and the Society of Vertebrate Paleontology guidelines. She has extensive experience providing oversight for long-term monitoring projects throughout the Los Angeles Basin for archaeological, Native American, and paleontological monitoring compliance projects and provides streamlined management for these disciplines.

Relevant Experience

Los Angeles Unified School District (LAUSD) Central Los Angeles High School #9; Los Angeles, CA. *Senior Project Archaeologist & Project Manager*. Sara conducted on-site monitoring and investigation of archaeological sites exposed as a result of construction activities. During the data recovery phase in connection with a 19th century cemetery located on-site, she participated in locating of features, feature excavation, mapping, and client coordination. She organized background research on the cemetery, including genealogical, local libraries, city and county archives, other local cemetery records, internet, and local fraternal organizations. Sara advised on the lab methodology and setup and served as project manager. Sara was a contributing author and editor for the published monograph, which was published as part of a technical series, “Not Dead but Gone Before: The Archaeology of Los Angeles City Cemetery.”

Downtown Cesar Chavez Median Project, City of Los Angeles, CA. *Project Manager*. Sara assisted the City of Los Angeles Department of Public Works Bureau of Engineering with a Local Assistance Project requiring consultations with Caltrans cultural resources. Responsible for Caltrans coordination, serving as contributing author and report manager for required ASR, HPSR, and HRER prepared for the project.

Elysian/USC Water Recycling Project Initial Study/Environmental Assessment, Los Angeles, CA. *Project Manager.* Sara worked on the Initial Study/Mitigated Negative Declaration and an Environmental Assessment/Finding of No Significant Impact to construct recycled water pipelines for irrigation and other industrial uses serving Los Angeles Department of Water and Power customers in downtown Los Angeles, including Elysian Park. The U.S. Environmental Protection Agency is the federal lead agency.

Appendix B
LACM Database Search Results

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

NATURAL HISTORY MUSEUM
LOS ANGELES COUNTY

Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smcleod@nhm.org

4 May 2018

Environmental Science Associates
2121 Alton Parkway, Suite 100
Irvine, CA 92606

Attn: Fatima Clark, Archaeologist

re: Paleontological resources for the proposed 550 Shatto Place Project, in the City of Los Angeles, Los Angeles County, project area

Dear Fatima:

I have thoroughly searched our paleontology collection records for the locality and specimen data for the proposed 550 Shatto Place Project, in the City of Los Angeles, Los Angeles County, project area as outlined on the portion of the Hollywood USGS topographic quadrangle map that you sent to me via e-mail on 20 April 2018. We do not have any vertebrate fossil localities that lie directly within the proposed project area boundaries, but we do have localities nearby from the same sedimentary deposits that occur in the proposed project area, either at the surface or at depth.

In the entire proposed project area the surface deposits are composed of older Quaternary Alluvium, derived as alluvial fan deposits from the elevated terrain to the northeast. The uppermost layers of Quaternary Alluvium in this general portion of Los Angeles usually do not contain significant vertebrate fossils, but vertebrate fossils do occur at varying depths. Our closest vertebrate fossil locality from older Quaternary deposits, LACM 6204, situated just south of west of the proposed project area near the intersection of Wilshire Boulevard and Serrano Avenue, produced a fossil specimen of mammoth, *Mammuthus*, at a depth of 65 feet below grade. Further northwest of the proposed project area, near the intersection of Western Avenue and Council Street, our locality LACM 5845, also from these older Quaternary sediments, produced a specimen of fossil mastodon, Mammutidae, at a depth of only 5-6 feet below the surface. Just east of due north of the proposed project area, at about the intersection of Madison Avenue and Middlebury Street, our locality LACM 3250 produced a fossil specimen of mammoth, *Mammuthus*, at a depth of about eight feet below street level.

Near the northern three sides of the proposed project area there are exposures of the marine late Miocene Puente Formation (also sometimes referred to as the Upper Modelo Formation or as an unnamed shale in this area). Exposed in the surrounding elevated terrain, these Puente Formation deposits also probably underlie the Quaternary Alluvium in the proposed project area at depth. Just west of south of the proposed project area, around the intersection of Vermont Avenue and Wilshire Boulevard, we have the vertebrate fossil localities LACM 6202 and 6203 from the Puente Formation discovered during excavation for the Meterorail Wilshire / Vermont station at a depth of 60 to 80 feet beneath the surface. Fossil specimens of eels, Anguilliformes, and needlefishes, Belonidae, were recovered at locality LACM 6203. Locality LACM 6202, however, was an extremely productive locality that contained an extensive fauna of fossil fish. A list of the fossil fish taxa from locality LACM 6202 is provided in the attached appendix.

Very shallow excavations of only a few feet in the Quaternary Alluvium exposed in all or almost all of the proposed project area may not encounter any significant fossil vertebrate remains. Deeper excavations that extend down into older sedimentary deposits, particularly if they extend down into the Puente Formation that may also be exposed in the very northwestern-most portion of the proposed project area, however, may very well uncover significant vertebrate fossils. Any substantial excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosures: appendix; invoice

Fossil fish taxa from LACM 6202, Metrorail Red Line Vermont / Wilshire Station

- Osteichthyes - bony fishes
  - Anguilliformes - eels
  - Atheriniformes
    - Belonidae - needlefishes
  - Beryciformes
    - Anoplogasteridae - fangtooths
      - *Anoplogaster*
    - Melamphaeidae - bigscales
      - *Scopelogadus*
  - Clupeiformes
    - Clupeidae - herrings
      - *Ganolytes cameo*
      - *Xyne grex*
  - Gadiformes
    - Gadidae - cods
      - *Physiculus*
    - Macrouridae - grenadiers
    - Merlucciidae - hakes
      - *Merluccius*
    - Moridae - flatnoses
  - Lophiiformes - frogfishes
    - Linophrynidae
    - Oneirodidae
      - *Oneirodes*
  - Myctophiformes
    - Myctophidae - lanternfishes
      - *Diaphus*
      - *Lampanyctus*
  - Perciformes
    - Carangidae - jacks
      - *Pseudoseriola*
    - Gempylidae - snake mackerals
      - *Thyrsocles*
    - Sciaenidae - croakers
      - *Lompoquia*
    - Scombridae - tunas & mackerals
      - *Sarda*
      - *Scomber*
    - Serranidae - groupers
    - Trichiuridae - cutlassfishes
  - Pleuronectiformes
    - Citharidae - sanddabs
      - *Citharichthys*
    - Pleuronectidae - fluonders & soles
      - *Hippoglossus*
      - *Pleuronichthys*
  - Salmoniformes
    - Alepocephalidae - slickheads
    - Argentinidae - argentinas
    - Bathylagidae - smoothtongues
      - *Bathylagus*
    - Opisthoproctidae - spookfishes
    - Searsiidae - tubeshoulders
  - Scorpaeniformes
    - Scorpaenidae - rockfishes
      - *Sebastes*
  - Stomiatiformes
    - Chauliodontidae - viperfishes
      - *Chauliodus eximius*
    - Gonostomidae - bristlemouths
      - *Cyclothone*
      - *Vinciguerria*
    - Sternoptychidae - hatchetfishes
      - *Argyropelecus*
    - Stomiatidae - dragonfishes
      - *Stomias*

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514-550 S. SHATTO PLACE PROJECT, CITY OF LOS ANGELES, CALIFORNIA

Archaeological Resources Assessment Report-Addendum

Prepared for
City of Los Angeles Planning Department

September 2020

ESA

Confidential – Not For Public Distribution

514-550 S. SHATTO PLACE PROJECT, CITY OF LOS ANGELES, CALIFORNIA

Archaeological Resources Assessment Report-Addendum

Prepared for:
City of Los Angeles Planning Department

September 2020

Prepared by:
ESA
626 Wilshire Blvd. Suite 1100
Los Angeles, CA 90017

Project Director:
Monica Strauss, M.A., RPA

Project Manager:
Sara Dietler, B.A.

Report Authors:
Fatima Clark, B.A.
Chris Lockwood, PhD., RPA

Project Location:
Hollywood (CA) USGS 7.5-minute Topographic Quad;
Township 1 South, Range 13 West, Section 19

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ESA

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Statement of Confidentiality

This report contains confidential cultural resources location information and distribution of this report is restricted. Cultural resources are nonrenewable, and their scientific, cultural, and aesthetic values can be significantly impaired by disturbance. To deter vandalism, artifact hunting, and other activities that can damage cultural resources, the locations of cultural resources are confidential. The legal authority to restrict cultural resources information is in subdivision (r) of Section 6254 and Section 6254.10 of the California Government Code, subdivision (d) of Section 15120 of Title 14 of the California Code of Regulations, Section 304 of the National Historic Preservation Act of 1966, as amended, and Section 9 of the Archaeological Resources Protection Act.

514-550 S. SHATTO PLACE PROJECT

Archaeological Resources Assessment Report-Addendum

Introduction

The expanded Project Site is located at 514-550 Shatto Place Project (Project) (alternative address: 3119 W. 6th Street; APNs 5077-004-025 and 5077-004-033) within the Wilshire Community Plan Area of Los Angeles, in support of a Sustainable Communities Environmental Assessment. The Applicant proposes to develop a mixed-use residential and commercial property in the City of Los Angeles (City). The City is the lead agency for the Project pursuant to the California Environmental Quality Act (CEQA). This report provides an archaeological sensitivity assessment for the expanded Project Site based on the data collected and assessment provided in the *Archaeological Resources Assessment*, (ESA, December 2018) in support of the Draft Environmental Impact Report (DEIR).

ESA personnel involved in the preparation of this report are as follows: Monica Strauss, M.A., RPA, Project director; Sara Dietler, B.A., Principal Investigator; Henry Chodsky, B.A., surveyor; Fatima Clark, B.A., report author; and Chris Lockwood, PhD., RPA, geoarchaeologist. Candace Ehringer, M.A., RPA, provided senior review of the report. Resumes of key personnel are included in **Appendix A**.

Project Location

The 1.52-acre Project Site is located within the Koreatown neighborhood in the City of Los Angeles (**Figure 1**). The Project is situated at 514, 522, 530, and 550 S. Shatto Place (also known as 3119 W. 6th Street) and is comprised of four lots (Assessor Parcel Numbers 5077-004-025 and 5077-004-033) (**Figure 2**). It is bound on the north by office uses, on the south by 6th Street, on the east by commercial and residential uses, and on the west by Shatto Place. Specifically, the Project Site is situated in Section 19 of Township 1 South, Range 13 West on the Hollywood, CA U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (**Figure 3**).

Description of Modified Project

TF Shatto LP, the Applicant, proposes to develop a mixed-use development project known as 514-550 S. Shatto Place (Project) on an approximately 66,411-square-foot (1.52-acre) site (Project Site) in the Wilshire Community Plan area of the City. The Project Site is located at 514, 522, 530, and 550 South Shatto Place, and 3119 West 6th Street, and is composed of four lots with the Assessor Parcel Numbers (APN) 5077-004-025 and 5077-004-033. The area is characterized by a mixture of commercial, institutional, and residential uses in a variety of scales and from various periods of development, including new Los Angeles County facilities to the west. The Project Site is bounded by Shatto Place on the west and West 6th Street on the south. Immediately to the east are residential uses, and beyond that is South Westmoreland Avenue. Immediately to the north are office uses, and farther to the north is West 5th Street. The Project Site is currently occupied by the New Covenant Academy, a private school serving grades K–12, and a four-story office building. The Project Site is developed with an approximately 12,800-square-foot "L-shaped" former church building (church building) that fronts West 6th Street. It was originally constructed for the First English Evangelical Lutheran Church, and currently used by the New Covenant Academy as a basketball court; a one-story school classroom building; a two-story classroom building; a restroom and storage facilities; and surface parking. At 514 S. Shatto, there is a four story, concrete-framed, mid-rise, multi-tenant office building with at-grade parking. The total amount of existing development on the Project Site is approximately 47,031 square feet gross area. Except for the existing former church building, all existing buildings on the Project Site will be demolished.

On the northern portion of the Project Site, the Project would include a new high-rise building containing 367 residential units over a two-story, L-shaped podium. The Project Site is currently occupied by the New Covenant Academy, a private school serving grades K–12, and a four-story office building. The Project Site is developed with an approximately 12,800-square-foot "L-shaped" former church building (church building) that fronts West 6th Street. It was originally constructed for the First English Evangelical Lutheran Church, and currently used by the New Covenant Academy as a basketball court; a one-story school classroom building; a two-story classroom building; a restroom and storage facilities; and surface parking. At 514 S. Shatto, there is a four story, concrete-framed, mid-rise, multi-tenant office building with at-grade parking. The total amount of existing development on the Project Site is approximately 47,031 square feet gross area. Except for the existing former church building, all existing buildings on the Project Site will be demolished.

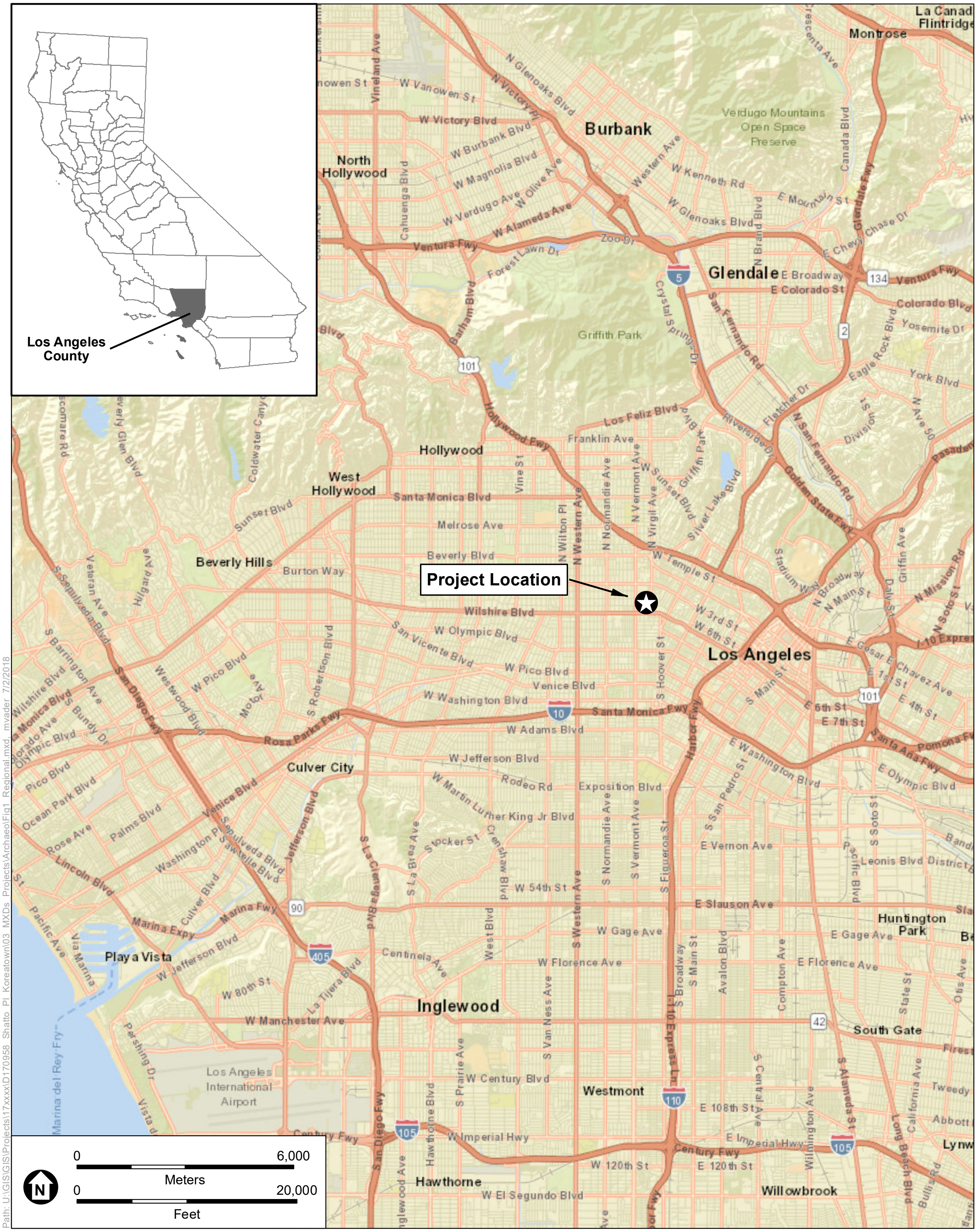
On the northern portion of the Project Site, the Project would include a new high-rise building containing 367 residential units over a two-story, L-shaped podium. On the ground floor, a publicly accessible landscaped plaza of approximately 14,650 square feet of area is centered on the Project Site. At the corner of Shatto Place and West 6th Street, perimeter landscaping and restaurant uses would surround the church structure. In total, the Project would provide approximately 146,103 square feet of open space of which, 33,019 square feet would be Los Angeles Municipal Code (LAMC)-credited open space. In the private balconies, approximately 91,300 square feet of outdoor space is provided, of which 16,509 square feet would be LAMC-credited private open space.

Up to approximately 470 vehicle parking spaces would be located within four subterranean levels and at the ground level. The subterranean parking would be located directly below the new residential and commercial components; no subterranean parking would be located below the retrofitted former church building. Bicycle parking spaces pursuant to the LAMC would be provided on-site. The residential parkade entrance and drop-off would be accessed from the main driveway on Shatto Place near the north property line. Vehicle access to loading areas for the residential tower and restaurant would be from a service entrance along West 6th Street. There would also be a passenger loading/drop-off location accessed via a driveway off Shatto Place northerly of the new central plaza.

Revisions of the Adaptive Re-use of First English Evangelical Lutheran Church

The Modified Project, like the Approved Project, will rehabilitate the former First English Evangelical Lutheran Church building for new use as restaurant space.

The alterations to the church building as proposed in the Modified Project differ from the Approved Project in four elements: the Modified Project omits the exterior elevator and lobby addition on the north façade, proposed by the Approved Project, and instead installs an interior elevator within the former First English Evangelical Lutheran Church building; the Modified Project adds a metal-and-glass screen at the north façade of the former Church building to highlight the entrance from the parking garage elevator to the church; the Modified Project expands the proposed new openings on the north façade to accommodate wide, bi-folding glass doors to open the former sanctuary to a new outdoor dining area; and the Modified Project adds a new second floor within the double-height nave of the former Church.



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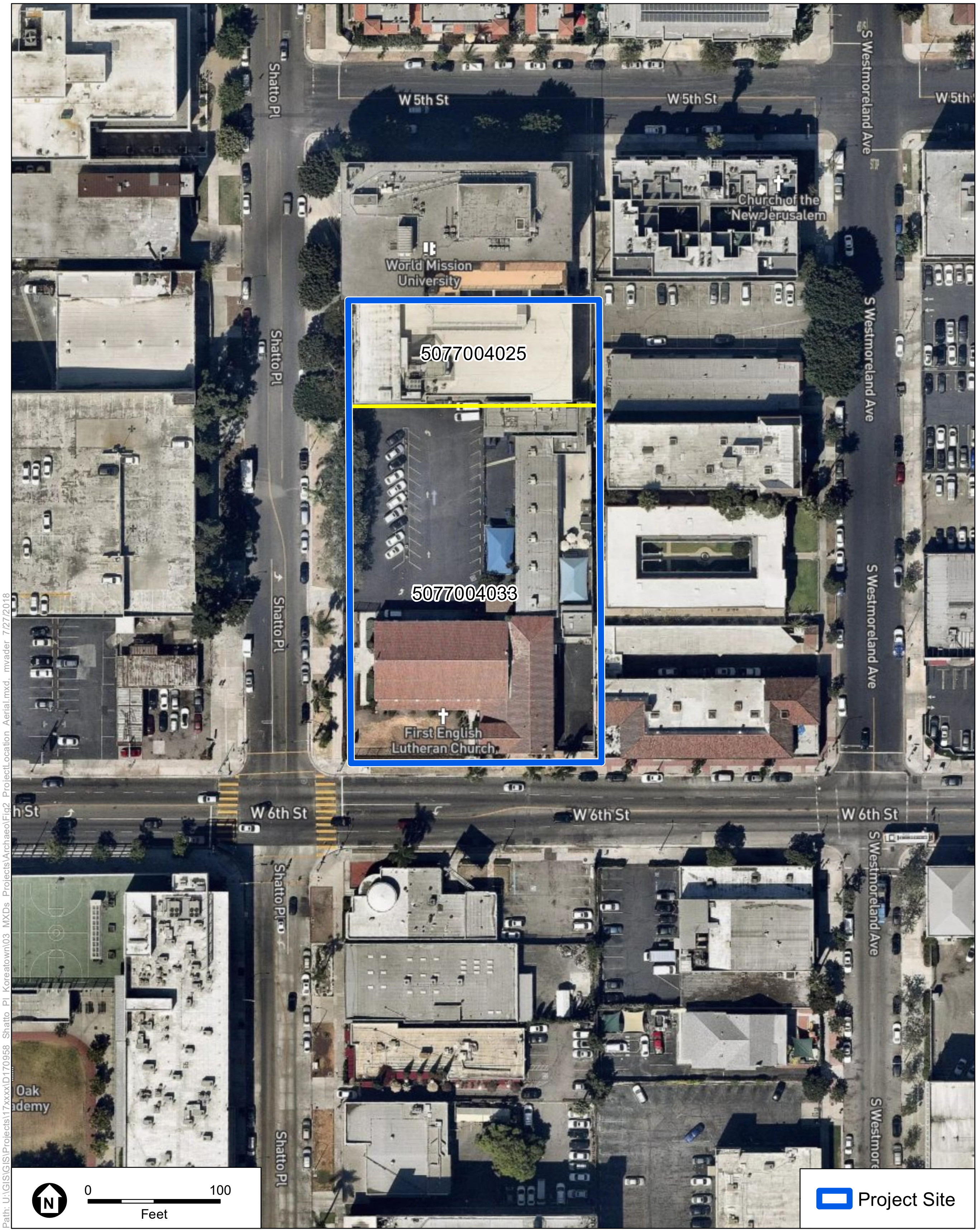
SOURCE: ESRI

Shatto Place Koreatown

Figure 1
Regional Location Map



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SOURCE: ESRI 2020

Shatto Place Koreatown

Figure 2
Project Location

ESA

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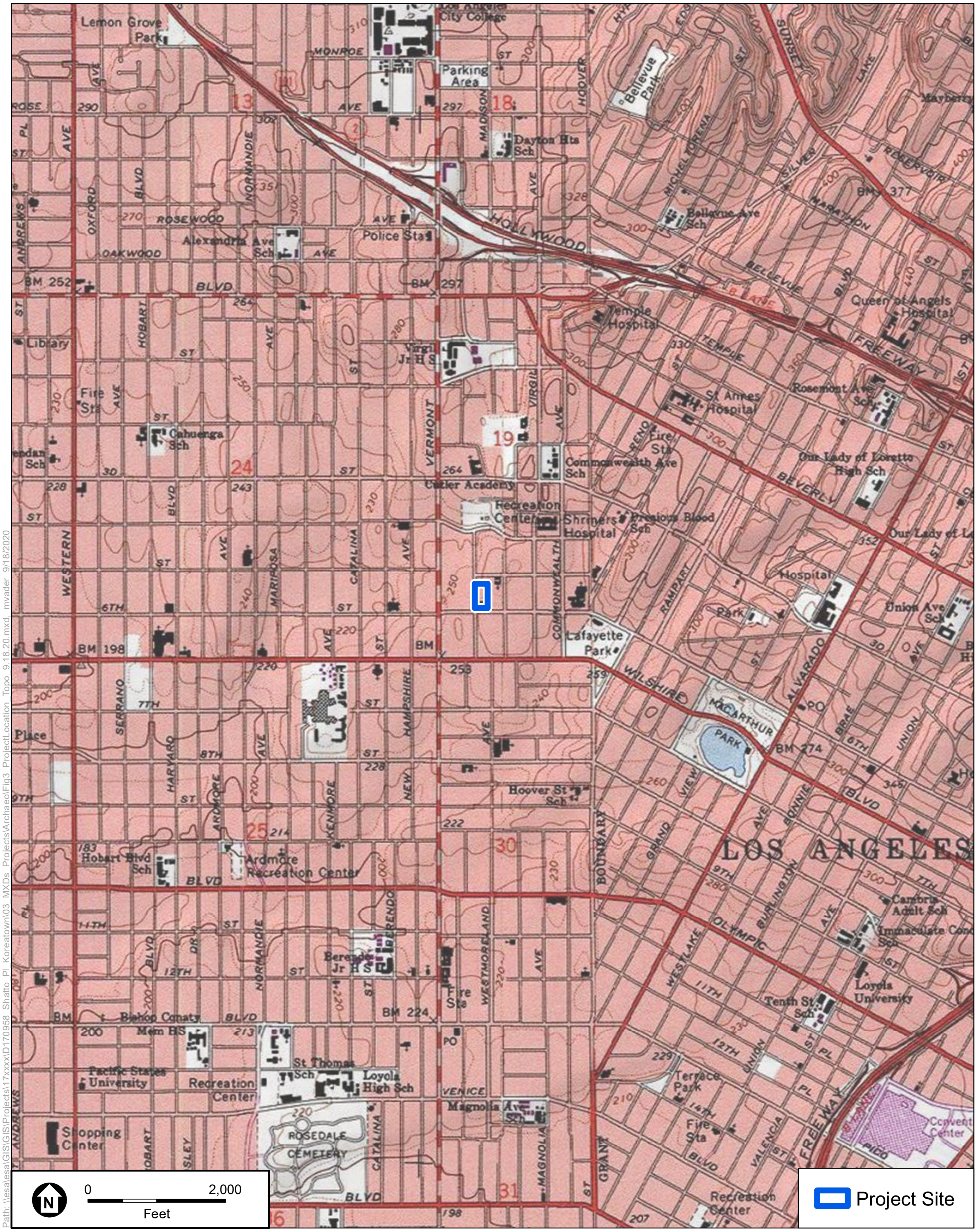

SOURCE: USGS 7.5' Topo Quad Hollywood 1978, 1982

Shatto Place Koreatown

Figure 3
Project Location

ESA

Setting

Prehistoric Setting

The earliest evidence of occupation in the Los Angeles area dates to at least 9,000 years before present (B.P.) and is associated with a period known as the Millingstone Cultural Horizon (Wallace 1955; Warren 1968). Departing from the subsistence strategies of their nomadic big-game hunting predecessors, Millingstone populations established more permanent settlements. These settlements were located primarily on the coast and in the vicinity of estuaries, lagoons, lakes, streams, and marshes where a variety of resources including seeds, fish, shellfish, small mammals, and birds were exploited. Early Millingstone occupations are typically identified by the presence of handstones (manos) and millingstones (metates), while those Millingstone occupations dating later than 5,000 years B.P. contain a mortar and pestle complex as well, signifying the exploitation of acorns in the region.

Although many aspects of Millingstone culture persisted, by 3,500 years B.P. a number of socioeconomic changes occurred (Erlandson 1994; Wallace 1955; Warren 1968). These changes are associated with the period known as the Intermediate Horizon (Wallace 1955). Increased populations in the region necessitated the intensification of existing terrestrial and marine resources (Erlandson 1994). This was accomplished in part through the use of the circular shell fishhook on the coast, and more abundant and diverse hunting equipment. Evidence for shifts in settlement patterns has been noted at a variety of locations at this time and is seen by many researchers as reflecting increasingly territorial and sedentary populations. The Intermediate Horizon marks a period in which specialization in labor emerged, trading networks became an increasingly important means by which both utilitarian and non-utilitarian materials were acquired, and travel routes were extended. Archaeological evidence suggests that the margins of numerous rivers, marshes, and swamps within the Los Angeles River Drainage served as ideal locations for prehistoric settlement during this period. These well-watered areas contained a rich collection of resources and are likely to have been among the more heavily trafficked travel routes.

The Late Prehistoric period, spanning from approximately 1,500 years B.P. to the mission era, is the period associated with the florescence of the contemporary Native American group known as the *Gabrielino* (Wallace 1955). Coming ashore near Malibu Lagoon or Mugu Lagoon in October of 1542, *Juan Rodriguez Cabrillo* was the first European to make contact with the *Gabrielino* Indians. Occupying the southern Channel Islands and adjacent mainland areas of Los Angeles and Orange Counties, the *Gabrielino* are reported to have been second only to their Chumash neighbors in terms of population size, regional influence, and degree of sedentism (Bean and Smith 1978). The *Gabrielino* are estimated to have numbered around 5,000 in the pre-contact period (Kroeber 1925) and maps produced by early explorers indicate that at least 26 *Gabrielino* villages were within proximity to known Los Angeles River courses, while an additional 18 villages were reasonably close to the river (Gumprecht 1999). Subsistence consisted of hunting, fishing, and gathering. Small terrestrial game was hunted with deadfalls, rabbit drives, and by burning undergrowth, while larger game such as deer were hunted using bows and arrows. Fish were taken by hook and line, nets, traps, spears, and poison (Bean and Smith 1978; Reid 1939

[1852]). The primary plant resources were the acorn, gathered in the fall and processed with mortars and pestles, and various seeds that were harvested in late spring and summer and ground with manos and metates. The seeds included chia and other sages, various grasses, and islay or holly leafed-cherry (Reid 1939 [1852]).

Ethnographic Setting

Gabrielino

The Project Site is located in a region traditionally occupied by the Takic-speaking Gabrielino Indians. The term "Gabrielino" is a general term that refers to those Native Americans who were administered by the Spanish at the Mission San Gabriel Arcángel. Prior to European colonization, the Gabrielino occupied a diverse area that included: the watersheds of the Los Angeles, San Gabriel, and Santa Ana rivers; the Los Angeles basin; and the islands of San Clemente, San Nicolas, and Santa Catalina (Kroeber, 1925). Their neighbors included the Chumash and Tataviam to the north, the Juañeno to the south, and the Serrano and Cahuilla to the east. The Gabrielino are reported to have been second only to the Chumash in terms of population size and regional influence (Bean and Smith, 1978). The Gabrielino language was part of the Takic branch of the Uto-Aztecan language family.

The Gabrielino Indians were hunter-gatherers and lived in permanent communities located near the presence of a stable food supply. Subsistence consisted of hunting, fishing, and gathering. Small terrestrial game was hunted with deadfalls, rabbit drives, and by burning undergrowth, while larger game such as deer were hunted using bows and arrows. Fish were taken by hook and line, nets, traps, spears, and poison (Bean and Smith, 1978). The primary plant resources were the acorn, gathered in the fall and processed in mortars and pestles, and various seeds that were harvested in late spring and summer and ground with manos and metates. The seeds included chia and other sages, various grasses, and islay or holly-leafed cherry. Community populations generally ranged from 50 to 100 inhabitants, although larger settlements may have existed. The Gabrielino are estimated to have had a population numbering around 5,000 in the pre-contact period (Kroeber, 1925).

The Late Prehistoric period, spanning from approximately 1,500 years B.P. to the mission era, is the period associated with the florescence of the Gabrielino (Wallace, 1955). Coming ashore near Malibu Lagoon or Mugu Lagoon in October of 1542, Juan Rodriguez Cabrillo was the first European to make contact with the Gabrielino Indians. The Gabrielino are reported to have been second only to their Chumash neighbors in terms of population size, regional influence, and degree of sedentism (Bean and Smith, 1978). Maps produced by early explorers indicate that at least 26 Gabrielino villages were within proximity to known Los Angeles River courses, while an additional 18 villages were reasonably close to the river (Gumprecht, 2001).

The closest village to the Project Site is the village of *Yangna.* The exact location of *Yangna*, within downtown Los Angeles continues to be debated, although some believe it to have been located at the present-day location of the Civic Center (approximately 2.65 miles southeast of the Project Site) (McCawley, 1996). Other proposed locations are near the present-day Union Station (Chartkoff and Chartkoff, 1972:64), to the south of the old Spanish Plaza, and near the original site of the Bella Union Hotel located on the 300 Block of North Main Street, approximately 2.9 to 3.15 miles southeast of the Project Site (Robinson, 1963:83, as cited in Dillon, 1994:30). A second community or village, named *Geveronga,* may have been located in the vicinity of the current downtown Los Angeles' city center, reported in the San Gabriel baptismal records as located "in the rancheria adjoining the Pueblo of Los Angeles" (McCawley, 1996:57).

Historic Setting

The first European exploration of the area began in 1542 when Spanish explorer Juan Rodriguez Cabrillo arrived by sea during his navigation of the California coast. Sebastian Vizcaino arrived in 1602 during his expedition to explore and map the western coast that Cabrillo visited 60 years earlier. In 1769, the Gaspar de Portolá expedition passed through the region on its way from San Diego to the San Francisco Bay area (McCawley, 1996). When Portolá's expedition passed through the Los Angeles area, they reached the San Gabriel Valley on August 2 and traveled west through a pass between two hills where they encountered the Los Angeles River and camped on its east bank near the present-day North Broadway Bridge and the entrance to Elysian Park. This location has been designated California Historic Landmark Number 655, the Portolá Trail Campsite. Father Crespi (a member of Portolá's party) indicated in his diaries that on that day they "entered a spacious valley, well grown with cottonwoods and alders, among which ran a beautiful river. This plain where the river runs is very extensive and…is the most suitable site for a large settlement" (The River Project, 2001). He goes on to describe this "green, lush valley"; its "very full flowing, wide river"; the "riot of color" in the hills; and the abundance of native grapevines, wild roses, grizzly, antelope, quail and steelhead trout. Crespi observed that the soil was rich and "capable of supporting every kind of grain and fruit which may be planted." The river was named "El Rio y Valle de Nuestra Señora La Reina de Los Ángeles de la Porciúncula."

Missions were established in the years that followed the Portolá expedition, the fourth being the Mission San Gabriel Arcángel founded in 1771 near the present-day City of Montebello, approximately 10.75 miles northeast of the Project Site. By the early 1800s, the majority of the surviving Gabrielino population had entered the mission system. The Gabrielino inhabiting Los Angeles County were under the jurisdiction of either Mission San Gabriel or Mission San Fernando. Mission life offered the Indians security in a time when their traditional trade and political alliances were failing, and epidemics and subsistence instabilities were increasing (Jackson, 1999).

On September 4, 1781, which was 12 years after Crespi's initial visit, the Pueblo de la Reina de los Ángeles was established not far from the site where Portolá and his men camped. Watered by the river's ample flow and the area's rich soils, the original pueblo occupied 28 square miles and consisted of a central square, surrounded by 12 houses, and a series of 36 agricultural fields occupying 250 acres, plotted to the east between the town and the river (Gumprecht, 2001).

An irrigation system that would carry water from the river to the fields and the pueblo was the communities' first priority and was constructed almost immediately. The main irrigation ditch, or Zanja Madre, was completed by the end of October 1781. It was constructed in the area of present-day Elysian Park, and carried water south to the agricultural lands situated just east of the pueblo (Gumprecht, 2001).

The authority of the California missions gradually declined, culminating with their secularization in 1834. Although the Mexican government directed that each mission's lands, livestock, and equipment be divided among its converts, the majority of these holdings quickly fell into non-Indigenous hands. Mission buildings were abandoned and quickly fell into decay. If mission life was difficult for Native Americans, secularization was typically worse. After two generations of dependence on the missions, they were suddenly disenfranchised. After secularization, "nearly all of the Gabrielinos went north while those of San Diego, San Luis, and San Juan overran this county, filling the Angeles and surrounding ranchos with more servants than were required" (Reid, 1977 [1851]:104). Upon his 1852 visit to Los Angeles, John Russel Barlett wrote,

> *I saw more Indians about this place than in any part of California I had yet visited. They were chiefly mission Indians, i.e., those who had been connected with the missions and had derived their support from them until the suppression of those establishments. They are a miserable, squalid-looking set, squatting or lying about the corners of the streets with no occupation. They have no means of obtaining a living, as their lands are taken from them, and the missions for which they labored and which provided after a sort for many thousands of them, are abolished (as cited in Sugranes 1909:77).*

The first party of U.S. immigrants arrived in Los Angeles in 1841, although surreptitious commerce had previously been conducted between Mexican California and residents of the United States and its territories. Included in this first wave of immigrants were William Workman and John Rowland, who soon became influential landowners. As the possibility of a takeover of California by the United States loomed large, the Mexican government increased the number of land grants in an effort to keep the land in the hands of upper-class *Californios* like the Domínguez, Lugo, and Sepúlveda families (Wilkman and Wilkman, 2006:14–17). Governor Pío Pico and his predecessors made more than 600 rancho grants between 1833 and 1846, putting most of the state's lands into private ownership for the first time (Gumprecht, 2001). Having been established as a pueblo, property within Los Angeles could not be dispersed by the governor, and this task instead fell under the city council's jurisdiction (Robinson, 1979).

When Los Angeles was connected to the transcontinental railroad via San Francisco on September 5, 1876, it experienced a significant boost in population. The City would experience its greatest growth in the 1880s when two more direct rail connections to the East Coast were constructed. The Southern Pacific completed its second transcontinental railway, the Sunset Route from Los Angeles to New Orleans, in 1883 (Orsi, 2005). In 1885, the Santa Fe Railroad completed a competing transcontinental railway to San Diego, with connecting service to Los Angeles (Mullaly and Petty, 2002). The resulting fare wars led to an unprecedented real estate boom, as well as affordable cross-country fares for immigrants (Dinkelspiel, 2008).

History of the Project Site

For information on the history of the Project Site, refer to the *Historic Maps, Phase I ESA, and HRE Reports Review* section of this report.

Regulatory Framework

Numerous laws and regulations require federal, state, and local agencies to consider the effects a project may have on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies.

State

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the state and is codified at *Public Resources Code (PRC) Section 21000 et seq.* CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or unique archaeological resources. Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

The *CEQA Guidelines* (Title 14 California Code of Regulations [CCR] Section 15064.5) recognize that historical resources include: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (California Register); (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA and Section 15064.5 of the *CEQA Guidelines* apply. If an archaeological site does not meet the criteria for a historical resource contained in the *CEQA Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is as a unique archaeological resource. As defined in Section 21083.2 of CEQA a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,

- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required. The *CEQA Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (*CEQA Guidelines* Section 15064.5(c)(4)).

A significant effect under CEQA would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* Section 15064.5(a). Substantial adverse change is defined as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired" (*CEQA Guidelines* Section 15064.5(b)(1)). According to *CEQA Guidelines* Section 15064.5(b)(2), the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that:

A. Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or

B. Account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

C. Convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a Lead Agency for purposes of CEQA.

California Register of Historical Resources

The California Register is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for eligibility for the California Register are based upon National Register of Historic Places (National Register) criteria (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a prehistoric or historic-period property must be significant at the local, state, and/or federal level under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally determined eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and,
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and,
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

California Health and Safety Code Section 7050.5

California Health and Safety Code Section 7050.5 requires that in the event human remains are discovered, the County Coroner be contacted to determine the nature of the remains. In the event the remains are determined to be Native American in origin, the Coroner is required to contact the NAHC within 24 hours to relinquish jurisdiction.

California Public Resources Code Section 5097.98

California PRC Section 5097.98, as amended by Assembly Bill 2641, provides procedures in the event human remains of Native American origin are discovered during project implementation. PRC Section 5097.98 requires that no further disturbances occur in the immediate vicinity of the discovery, that the discovery is adequately protected according to generally accepted cultural and archaeological standards, and that further activities take into account the possibility of multiple burials. PRC Section 5097.98 further requires the NAHC, upon notification by a County Coroner, designate and notify a Most Likely Descendant (MLD) regarding the discovery of Native American human remains. Once the MLD has been granted access to the site by the landowner and inspected the discovery, the MLD then has 48 hours to provide recommendations to the landowner for the treatment of the human remains and any associated grave goods.

In the event that no descendant is identified, or the descendant fails to make a recommendation for disposition, or if the land owner rejects the recommendation of the descendant, the landowner may, with appropriate dignity, reinter the remains and burial items on the property in a location that will not be subject to further disturbance.

California Government Code Sections 6254(r) and 6254.10

These sections of the California Public Records Act were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. Section 6254(r) explicitly authorizes public agencies to withhold information from the public relating to "Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission." Section 6254.10 specifically exempts from disclosure requests for "records that relate to archaeological site information and reports, maintained by, or in the possession of the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the Native American Heritage Commission, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a Native American tribe and a state or local agency."

Assembly Bill 52 and Related Public Resources Code Sections

Assembly Bill (AB) 52 was approved by California State Governor Edmund Gerry "Jerry" Brown, Jr. on September 25, 2014. The act amended California PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which a Notice of Preparation (NOP) or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) will be filed on or after July 1, 2015. The primary intent of AB 52 was to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC Section 21074(a)(1) and (2) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" that are either included or determined to be eligible for inclusion in the California Register or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to Appendix G of the CEQA Guidelines, which was approved by the Office of Administrative Law on September 27, 2016.

PRC Section 21080.3.1 requires that within 14 days of a lead agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency provide formal notification to the designated contact, or a tribal representative, of

California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency (PRC Section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the lead agency's formal notification and the lead agency must begin consultation within 30 days of receiving the tribe's request for consultation (PRC Sections 21080.3.1(d) and 21080.3.1(e)).

PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project's impacts on the tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2(b)).

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an EIR or adopt an MND (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

Local

City of Los Angeles General Plan

The City of Los Angeles General Plan (adopted 2001) states as its objective, to "protect the City's archaeological and paleontological resources for historical, cultural, research, and/or educational purposes" by continuing "to identify and protect significant archaeological and paleontological resources known to exist or that are identified during land development, demolition, or property modification activities."

In addition, the City will:

> *continue to protect historic and cultural sites and/or resources potentially affected by proposed land development, demolition, or property modification activities…The City's environmental guidelines require the applicant to secure*

services of a bona fide archaeologist to monitor excavations or other subsurface activities associated with a development project in which all or a portion is deemed to be of archaeological significance. Discovery of archaeological materials may temporarily halt the project until the site has been assessed, potential impacts evaluated and, if deemed appropriate, the resources protected, documented and/or removed (City of Los Angeles, 2001).

Methodology

The Project Site for the 550 S. Shatto Place was evaluated in the *Archaeological Assessment Report* for the Approved Project and is not re-evaluated as part of this report. Data including a SCICC record search and historic map review obtained for the Approved Project was utilized to complete the assessment of the expanded Project Site.

Archival Research

SCICC Records Search

A records search for the Project was conducted on April 17, 2018 at the California Historical Resources Information System (CHRIS) South Central Costal Information Center (SCCIC) housed at California State University, Fullerton. The records search included a review of all recorded archaeological resources and previous studies within the Project Site and a 1-mile radius.

Previous Cultural Resources Investigations

The records search results indicate that 89 cultural resources studies have been conducted within a 1-mile radius of the Project Site (**Table 1**). Less than 25 percent of the 1-mile records search radius has been included in previous cultural resources surveys. Of the 89 previous studies, none overlap or are within the expanded Project Site

Previously Recorded Cultural Resources

The records search results indicate that one historic-period archaeological resource (P-19-003301) has been previously recorded within a 1-mile radius and within close proximity to the Project Site. No archaeological resources have been previously documented within the Project Site. A detailed description of resource P-19-003301 is provided below.

P-19-003301

Resource P-19-003301 is comprised of a refuse deposit (one amber glass bottle, one amber bottle base, a green glass shard, and building materials, such as tile, fire brick, and cement) discovered during construction monitoring (Turner, 2003). Information on the site form indicates that grading activity destroyed a portion of resource P-19-003301, as well as some artifacts found within it. Resource P-19-003301 is located approximately 500 feet southwest of the Expanded Project Site.

Sacred Lands File Search

The NAHC maintains a confidential Sacred Lands File (SLF) which contains sites of traditional, cultural, or religious value to the Native American community. The NAHC was contacted on April 20, 2018 to request a search of the SLF. The NAHC responded to the request in a letter dated April 23, 2018. The letter states that the SLF search yielded negative results and indicated that “the absence of specific site information…does not indicate the absence of Native American cultural resources” within a Project Site (Totton, 2018) (**Appendix B**).

Historic Maps, Phase I ESA, and HRE Reports Review

The Expanded Project Site is currently occupied by a four-story commercial building with minimal setbacks on all sides. There is a parking area accessed via a metal automotive gate at the first floor of the building. Historic maps and other information found in the Phase I ESA and the HRE were examined to provide historical information about the Project Site and to contribute to an assessment of the Project Site’s archaeological sensitivity. Available maps include the following: 1894 and 1900 Los Angeles, 15-minute topographic quadrangles; 1896, 1898, and 1902 Santa Monica 15-minute topographic quadrangles; and the 1907, 1921, 1950, 1954, 1955, 1968, and 1970 Sanborn Fire Insurance Maps.

Review of the 1894, 1896, 1898, 1900 and 1902 historic topographic maps indicate that the Project Site was undeveloped during these years. One stream is depicted as located in close proximity to the eastern portion of the expanded Project Site (approximately 0.15 miles away), while another one is shown as located approximately 0.15 miles west of the Expanded Project Site. West Lake (currently known as MacArthur Park Lake) is also depicted as located approximately 0.65 miles southeast of the Expanded Project Site (HMC, 2017).

Review of the 1907 Sanborn map indicates that the Project Site was undeveloped at this time. The 1921 Sanborn map shows a single family dwelling with a detached garage are located within the Expanded Project Site. The 1968 and 1970 Sanborn maps show that the dwelling is no longer exist within the Expanded Project Site and depicts the current development.

According to a review of the HRE report, a single-family residence and detached garage was built in 1910 by E.G.S. Hammond (depicted on the1921 Sanborn Map). The residence was demolished in 1962 and the current improvement was constructed. (Historic Resources Group, 2020).

Geoarchaeological Review

A desktop geoarchaeological review was conducted by Chris Lockwood, Ph.D., RPA, on July 27, 2018. The purpose of the review was to characterize the geology of the Project Site and assess the potential for the presence of subsurface archaeological resources in the Project Site. The review included a review of historic and geologic maps, geological literature, and archival research through the Natural Resources Conservation Service (NRCS). The following section presents the results of Dr. Lockwood’s analysis.

Geology and Geomorphology

The Project Site is located in the Los Angeles Basin, a structural depression approximately 50 miles long and 20 miles wide in the northernmost Peninsular Ranges Geomorphic Province (Ingersoll and Rumelhart, 1999). The Los Angeles basin developed as a result of tectonic forces and the San Andreas fault zone, with subsidence occurring 18 to 3 million years ago (Mya) (Critelli et al., 1995). While sediments dating back to the Cretaceous (66 million years ago) are preserved in the basin, continuous sedimentation began in the middle Miocene (around 13 million years ago) (Yerkes et al., 1965). Since that time, sediments have been eroded into the basin from the surrounding highlands, resulting in thousands of feet of accumulation (Yerkes et al., 1965). Most of these sediments are marine, until sea level dropped in the Pleistocene and deposition of the alluvial sediments that compose the uppermost units in the Los Angeles Basin began.

Geological mapping by Dibblee and Ehrenspeck (1991) indicates that the surficial geology of the Project Site is Older Quaternary Alluvium consisting of alluvial clay, sand, and gravel deposited as alluvial fan sediments derived from the Verdugo Mountains and deposited during the late Pleistocene (around 140,000 to 11,700 years ago) (Dibblee and Ehrenspeck, 1991; see also Campbell et al., 2014).

Prior to urban development and the channeling of the Los Angeles River, the Project Site was likely comprised of woodlands and grasslands, with marshes in low-lying areas. Review of the 1894, 1896, 1898, 1900, 1902, 1904, 1906, 1908, 1910, 1913, and 1915 historic topographic maps indicate that the Project Site was naturally situated between two north-south flowing streams; however, the streams are absent on the 1921 topographic map. Because the Project Site is situated on a topographic rise above the two former stream channels, it is unlikely that the Project Site received significant alluviation during the Holocene epoch. Development of the Project Site began around 1921 and today almost the entirety of the site is covered by buildings or paved surfaces.

Two geotechnical borings provide additional information regarding on-site stratigraphic conditions (Geotechnologies, Inc., 2017 and 2018). The uppermost sedimentary layer at the Project Site consists of dark brown to slight gray, slightly moist, stiff or dense silty and sandy silt with gravel extending to a depth of 5 feet below surface. The fill sits directly over interlayered mixtures of brown to gray, moist to very moist, and very dense to stiff sand, silt and clay interpreted as Old Alluvium (i.e., Late Pleistocene). The Old Alluvium extends to depths in excess of 30 feet, where it overlies orange brown to dark brown and grayish brown, clayey siltstone, silty claystone, and siltstone of the Miocene-aged Puente Formation. . In 2019, due to changes in the project description including the redesign from a 20 story tower to a 31 story tower and an additional level of subterranean parking for a total of four levels. Finally, the existing church repurposing was added to the project description as well. For the 2019 study two borings were drilled down to a depth of 110 feet and 30 below the existing site grade. Three test pits were also hand excavated. The levels of fill in the new borings is consistent with the 2017 and 2018 studies with a maximum depth of five feet. Old Alluvium was also recorded to 32.5 to 34 feet in depth. Finally, the bedrock encountered to the maximum depth of the borings was the Puente Formation, again consistent with the previous studies.

Soils

Mapped soils for the Project Site consist of Urban land-Montebello complex (NRCS, 2018). A soil complex is present when two or more different soil types are mixed geographically such that the scale of the map makes it undesirable, or impractical, to show each one separately. The Urban land designation reflects a high degree of urbanization and development, which tends to obscure natural soil or pedological characteristics, and imparts anthropogenic or artificial soil characteristics. Urban land is recognized by human disturbances to natural soil characteristics resulting from development such as grading and filling. The Montebello silt loam soils consists of very deep, well drained soils formed in human transported parent material on graded alluvial fans that originate from granitic sources (NRCS, 2017). The typical pedon of Montebello soils consists of:

- A-horizon (0-9 cm): grayish brown silt loam (placed sediment)
- C-horizon (9-87 cm): dark brown clay loam (placed sediment)
- 2Bt1-horizon (87 to 135 cm): clay loam (alluvium)
- 2Bt2-horizon (135 to 200 cm): clay loam (alluvium)

Of significance is the absence of the natural, historic A-horizon (2A) at the top of the 2Bt1-horizon, a result of grading prior to placement of fill. It is the natural A-horizon that would have represented a relatively stable ground surface from the Late Pleistocene through the Holocene, and which would have had the greatest sensitivity for prehistoric cultural resources. If soil conditions within the Project Site are consistent with the typical Montebello pedon, the absence of the 2A-horizon suggests that much sensitivity for intact archaeological sites has likely been lost due to grading and removal of the historic ground surface.

Archaeological Sensitivity

Based on geological and soils maps, and geotechnical borings on the Approved Project Site is assumed to contain historic and recent anthropogenic fill resting unconformably on truncated Late Pleistocene alluvial fan deposits. There are no geotechnical borings from within the Expanded Project Site and information regarding the depth of disturbance related to the current development was not available. However, the current building does not include subterranean parking, or have a known basement, and a portion of the site is capped with a parking lot. Due to the age of development it is assumed that the below surface conditions at the Expanded Project Site are similar to the Approved Project Site. These conditions suggest that the Expanded Project Site likely lacks deposits dating to the latest Pleistocene and Holocene (11,700 years ago to present) – the period for which there is widely accepted evidence for people in Southern California – and therefore has lower sensitivity for subsurface prehistoric cultural resources. The Expanded Project Site likely contains fill placed in the historic period. The fill is considered sensitive for subsurface historic-period cultural resources.

Conclusions and Recommendations

Conclusions

Known Resources

No known archaeological resources were identified within the Project Site as a result of this assessment; however, one historic-period archaeological resource (P-19-003301), consisting of a refuse deposit, has been recorded approximately 500 feet southwest of the Expanded Project Site, but would not be impacted by the Project. Therefore, the Project would not impact any known archaeological resources.

Unknown Resources

The geoarchaeological review indicates that the Project Site has a low sensitivity for encountering prehistoric archaeological resources since there is a lack of deposits dating to the latest Pleistocene and Holocene, the period for which there is widely accepted evidence for people in Southern California. Nevertheless, the Project Site contains approximately 5 feet of fill placed in the historic period, which is considered sensitive for historic-period archaeological resources.

Historic-period archaeological resources, should they exist within the Project Site, could be related to the previous land uses (associated with historic residences). Therefore, it is possible that foundations of structures, building materials, and trash scatters could be found. These trash scatters could yield domestic refuse (such as serving ware, cook ware, and discarded food remains); and personal items (including buttons; medicine, perfume, liquor, and household bottles; and toys). Since Project-related excavation is expected to extend to 65 feet below existing surface, it could encounter historic-period archaeological resources within the upper 5 feet. If the Project encountered subsurface historic-period archaeological resources that qualify as historical or unique archaeological resources under CEQA, it could result in a potentially significant impact to archaeological resources.

Recommendations

Based on the results of this assessment, there is a low likelihood for encountering buried prehistoric archaeological resources. However, there is a moderate to high potential for encountering buried historic-period archaeological resources. Based on these results, **Mitigation Measures MM-CULT-1** through **MM-CULT-3** are recommended to ensure that potentially significant impacts to archaeological resources are reduced to a less than significant level under CEQA.

- **Mitigation Measure CULT-1:** Prior to the issuance of a demolition permit, the Applicant shall retain a qualified Archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards (qualified Archaeologist) to oversee an archaeological monitor who shall be present during construction activities on the Project Site such as demolition, clearing/grubbing, grading, trenching, or any other construction excavation activity associated with the Project. The activities to be monitored shall also include off-site improvements in the vicinity of the Project Site that involve ground disturbance, such as utility, sidewalk, or road improvements which would encounter soils that could potentially contain archaeological resources down to a depth of 5-feet The monitor shall have the authority to direct the pace of construction equipment in areas of higher sensitivity. The frequency of monitoring shall be based on the rate of excavation and grading activities, the materials being excavated (younger sediments vs. older sediments), and the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Full-time monitoring may be reduced to part-time inspections, or ceased entirely, if determined adequate by the qualified Archaeologist. Prior to commencement of excavation activities, an Archaeological Sensitivity Training shall be given for construction personnel. The training session, shall be carried out by the qualified Archaeologist, will focus on how to identify archaeological resources that may be encountered during earthmoving activities, and the procedures to be followed in such an event.

- **Mitigation Measure CULT-2:** In the event that historic (e.g., bottles, foundations, refuse dumps/privies, railroads, etc.) or prehistoric (e.g., hearths, burials, stone tools, shell and faunal bone remains, etc.) archaeological resources are unearthed, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A 25-foot buffer shall be established by the qualified Archaeologist around the find where construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. All archaeological resources unearthed by Project construction activities shall be evaluated by the qualified Archaeologist. If a resource is determined by the qualified Archaeologist to constitute a “historical resource” pursuant to CEQA Guidelines Section 15064.5(a) or a “unique archaeological resource” pursuant to Public Resources Code Section 21083.2(g), the qualified Archaeologist shall coordinate with the Applicant and the City to develop a formal treatment plan that would serve to reduce impacts to the resources. If any prehistoric archaeological sites are encountered within the project area, consultation with interested Native American parties will be conducted to apprise them of any such findings and solicit any comments they may have regarding appropriate treatment and disposition of the resources. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment under CEQA. If in coordination with the City, it is determined that preservation in place is not feasible, appropriate treatment of the resource shall be developed by the qualified Archaeologist in coordination with the City and may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Any archaeological material collected shall be curated at a public, non-profit institution with a research interest in the materials, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be donated to a local school or historical society in the area for educational purposes.

- **Mitigation Measure CULT-3:** Prior to the release of the grading bond, the qualified Archaeologist shall prepare a final report and appropriate California Department of Parks and Recreation Site Forms at the conclusion of archaeological monitoring. The report shall include a description of resources unearthed, if any, treatment of the resources, results of the artifact processing, analysis, and research, and evaluation of the resources with respect to the California Register of Historical Resources and CEQA. The report and the Site Forms shall be submitted by the Project applicant to the City, the South Central Coastal Information Center, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the development and required mitigation measures.

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Appendix A
Personnel

Monica Strauss, RPA

Director, Southern California Cultural Resources Group

EDUCATION

M.A., Archaeology, California State University, Northridge

B.A., Anthropology, California State University, Northridge

AA, Humanities, Los Angeles Pierce College

20 YEARS EXPERIENCE

SPECIALIZED EXPERIENCE

Treatment of Historic and Prehistoric Human Remains

Archaeological Monitoring

Complex Shell Midden Sites

Groundstone Analysis

PROFESSIONAL AFFILIATIONS

Register of Professional Archaeologists (RPA), #12805

Society for California Archaeology (SCA)

Society for American Archaeology (SAA)

QUALIFICATIONS

Exceeds Secretary of Interior Standards

CA State BLM Permitted

Monica has successfully completed dozens of cultural resources projects throughout California and the greater southwest, where she assists clients in navigating cultural resources compliance issues in the context of CEQA, NEPA, and Section 106. Monica has extensive experience with archaeological resources, historic buildings and infrastructure, landscapes, and Tribal resources, including Traditional Cultural Properties. Monica manages a staff of cultural resources specialists throughout the region who conduct Phase 1 archaeological/paleontological and historic architectural surveys, construction monitoring, Native American consultation, archaeological testing and treatment, historic resource significance evaluations, and large-scale data recovery programs. She maintains excellent relationships with agency staff and Tribal representatives. Additionally, Monica manages a general compliance monitoring team who support clients and agencies in ensuring the daily in-field compliance of overall project mitigation measures.

Relevant Experience

Orange County, Saddle Crest Homes Project EIR, Orange County, CA. Cultural Resources *Project Director.* The Saddle Crest project includes the development of 65 residential homes on an approximately 113.7-acre site. Monica managed the preparation of a Cultural Resources EIR section as well as a Phase 1 archaeological resources assessment. As part of the Phase 1 archaeological resources assessment, a literature review, a pedestrian survey, and Native American outreach were undertaken to meet CEQA compliance requirements.

Irvine Ranch Water District, Baker Treatment Plant, Orange County, CA. *Cultural Resources Principal Investigator*. ESA was retained by the Irvine Ranch Water District to provide environmental compliance services. In support of an EIR for the upgrade of the IRWD's Baker Treatment Plant near Lake Forest, ESA cultural resources staff conducted a Phase I Cultural Resources Assessment. Monica directed the archival research, a series of pedestrian surveys, and oversaw the preparation of Phase I Cultural resources Technical reports and the cultural resources section of the EIR.

Topock Compressor Station Remediation CEQA Services. Mohave County, AZ and San Bernardino County, CA. *Cultural Resources Project Director*. Monica is overseeing the preparation of cultural resources EIR sections and is providing project support to the California Department of Toxic Substances Control (DTSC), including facilitating Native American involvement. DTSC provides oversight of the site investigation and cleanup activities for the Pacific Gas and Electric Company (PG&E) Topock Gas Compressor Station, located in San Bernardino County, 15 miles southeast of Needles, California. Groundwater samples taken under and near the Station were found to be contaminated with hexavalent chromium and other chemicals as result of past disposal activities. Soils contamination is also present at the site, requiring investigation and cleanup. These activities are highly scrutinized by the regional Native American Tribes because the area has important cultural and religious significance. ESA is currently preparing an EIR for soil investigations and will be conducting CEQA evaluations that tier off of the Program EIR for the Groundwater Remedy. Additional project-specific EIRs may be required for the final remedy, which is currently undergoing engineering design. ESA will provide these services as well as lead the Native American and public participation efforts.

Los Angeles Department of Water and Power, Path 46 Clearance Surveys, San Bernardino, CA. *Project Director.* ESA has been tasked by Los Angeles Department of Water and Power (LADWP) to conduct required surveys for the Path 46 Transmission Line Clearances Project. The project's objective is to restore required code clearances to the transmission conductors, which will be accomplished by grading the ground surface underneath the transmission lines to achieve required height consistency. The work is being conducted in compliance with BLM guidelines and federal laws and statutes. Biological, archaeological, and paleontological resource surveys are currently being conducted for the 77 proposed grading areas, staging areas, and roads. Reports will be written documenting the results of the surveys and providing recommendations on the areas for access, staging areas, and soil distribution that would have the least amount of impacts on natural resources. Monica is providing support to LADWP in their coordination with the BLM, including providing oversight of map preparation, field surveys, and preparation of pre-field research designs and post-field technical reports.

Ballona Wetlands Restoration EIR, Los Angeles County, CA. *Cultural Resources Project Director.* As part of the development of the restoration plan for the Ballona Wetlands, the ESA project team characterized existing conditions that included water and sediment sampling and analysis. The water and sediment quality sampling was performed to develop and evaluate potential restoration alternatives, and to develop a conceptual plan. The ESA project team compiled existing data on and conducted additional sampling for water and sediment to assess potential effects on the proposed wetland restoration habitat from the use of urban runoff and tidal in-flow from Ballona Creek. These data were used to complete a baseline report and restoration alternatives assessment. Monica is assisting the CSCC in fulfilling Army Corps of Engineers requirements under Section 106 of the National Historic Preservation Act. In addition, she is coordinating with Tribal members and is overseeing a team of resource specialists who are compiling cultural resources technical in preparation of the EIR's Cultural Resources section.

Los Angeles Department of Water and Power La Kretz Innovation Campus, Los Angeles County, CA. *Project Director.* The project involved the rehabilitation of the 61,000-square-foot building located at 518-524 Colyton Street, demolition of the building located at 537-551 Hewitt Street, and construction of an open space public plaza and surface parking lot, and involved compliance with Section 106 of the National Historic Preservation Act and consultation with the California State Historic Preservation Officer. ESA is providing archaeological monitoring and data recovery services and is assisting LADWP with meeting their requirements for Section 106 of the National Historic Preservation Act. Monica is providing oversight to archaeological monitors and crew conducting resource data recovery and laboratory analysis, and is providing guidance to LADWP on meeting Section 106 requirements.

Los Angeles Department of Water and Power Lone Pine Landfill Paleontological Resources Recovery, Inyo County, CA. *Cultural Resources Project Director.* At the request of LADWP, ESA responded to a discovery of large mammal bone at the Lone Pine Landfill in an area where borrow materials were being excavated.

ESA conducted geologic map research and recovered what was identified as a mammoth tusk. The tusk was stabilized, prepared for curation, and transported to a storage facility. Monica provided senior oversight of the paleontological resources recovery team and conducted paleontological resources sensitivity training and guidance to landfill staff in the event additional material are encountered.

City of Los Angeles Recreation and Parks, Hansen Dam Skate Park Project, Los Angeles County, CA. *Cultural Resources Principal Investigator*. ESA prepared a joint EA and IS/MND for the Los Angeles Department of Recreation and Parks in coordination with the U.S. Army Corps of Engineers (Corps) for a proposed skate park facility within the Hansen Dam Recreation Area. Monica managed a Phase I Cultural resources Study, coordinated with the Army Corps of Engineers and provided senior review for the EA/IS/MND cultural resources section.

Los Angeles Unified School District, Central Los Angeles High School #9. Los Angeles, CA. *Project Director.* ESA contributed to Data Recovery Report sections for Los Angeles Unified School District's Central High School #9, constructed in downtown Los Angeles. Between 2004 and 2009, Monica led a team of archaeological staff of ten who conducted archaeological monitoring and data recovery of archaeological materials in connection with the 19th century Los Angeles City Cemetery. She coordinated with the Los Angeles County Coroner and office of Vital Statistics to obtain disinterment permits and developed a mitigation plan incorporating components related to the future disposition of remains, artifact curation, and commemoration. She directed an extensive historical research effort to identify the human remains, and at the request of the client, participated in public outreach and coordination with media.

Bureau of Land Management, On-Call Cultural Resources Services, Riverside County, CA. *Project Manager*. ESA has been retained by the Bureau of Land Management under an on-call contract to provide cultural resource services including compliance monitoring for projects under Bureau of Land Management (BLM) jurisdiction. Monica managed a number of projects for the BLM (Palm Springs South Coast Field Office) providing a wide range of cultural resources services for solar projects and other projects taking place on BLM lands in compliance with Section 106 and specified BLM protocols. Services that she and her staff provide under this contract include compliance monitoring and peer review, Phase I archaeological resources surveys, resource evaluations, the preparation of reports, and Native American consultation. Projects completed under this contract include Dos Palmas Phase I Survey and Archaeological Monitoring, National Monument Phase I Survey, Windy Pointe Archaeological Monitoring, and Fast and the Furious Phase I Survey.

Sara Dietler

Archaeologist

EDUCATION

B.A., Anthropology, San Diego State University

19 YEARS EXPERIENCE

CERTIFICATIONS/ REGISTRATION

California BLM Permit, Principal Investigator, Statewide

Nevada BLM Permit, Paleontology, Field Agent, Statewide

PROFESSIONAL AFFILIATIONS

Society for American Archaeology (SAA)

Society for California Archaeology (SCA)

Sara is a senior archaeology and paleontology lead with 20 years of experience in cultural resources management in Southern California. As a senior project manager, she manages technical studies including archaeological and paleontological assessments and surveys, as well as monitoring and fossil salvage for many clients, including public agencies and private developers. She is a cross-trained paleontological monitor and supervisor, familiar with regulations and guidelines implementing the National Historic Preservation Act (NHPA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and the Society of Vertebrate Paleontology guidelines. She has extensive experience providing oversight for long-term monitoring projects throughout the Los Angeles Basin for archaeological, Native American, and paleontological monitoring compliance projects and provides streamlined management for these disciplines.

Relevant Experience

Los Angeles Unified School District (LAUSD) Central Los Angeles High School #9; Los Angeles, CA. *Senior Project Archaeologist & Project Manager*. Sara conducted on-site monitoring and investigation of archaeological sites exposed as a result of construction activities. During the data recovery phase in connection with a 19th century cemetery located on-site, she participated in locating of features, feature excavation, mapping, and client coordination. She organized background research on the cemetery, including genealogical, local libraries, city and county archives, other local cemetery records, internet, and local fraternal organizations. Sara advised on the lab methodology and setup and served as project manager. Sara was a contributing author and editor for the published monograph, which was published as part of a technical series, “Not Dead but Gone Before: The Archaeology of Los Angeles City Cemetery.”

Downtown Cesar Chavez Median Project, City of Los Angeles, CA. *Project Manager*. Sara assisted the City of Los Angeles Department of Public Works Bureau of Engineering with a Local Assistance Project requiring consultations with Caltrans cultural resources. Responsible for Caltrans coordination, serving as contributing author and report manager for required ASR, HPSR, and HRER prepared for the project.

Elysian/USC Water Recycling Project Initial Study/Environmental Assessment, Los Angeles, CA. *Project Manager.* Sara worked on the Initial Study/Mitigated Negative Declaration and an Environmental Assessment/Finding of No Significant Impact to construct recycled water pipelines for irrigation and other industrial uses serving Los Angeles Department of Water and Power customers in downtown Los Angeles, including Elysian Park. The U.S. Environmental Protection Agency is the federal lead agency.

Appendix B
Sacred Lands File Search

ESA

2121 Alton Parkway
Suite 100
Irvine, CA 92606
949.753.7001 phone
949.753.7002 fax

www.esassoc.com

April 20, 2018

Native American Heritage Commission
1550 Harbor Blvd., Suite 100
Sacramento, CA 95691

Subject: Sacred Lands File Search Request: Proposed 550 Shatto Place Project, City of Los Angeles, Los Angeles County, California.

Dear Native American Heritage Commission Representative:

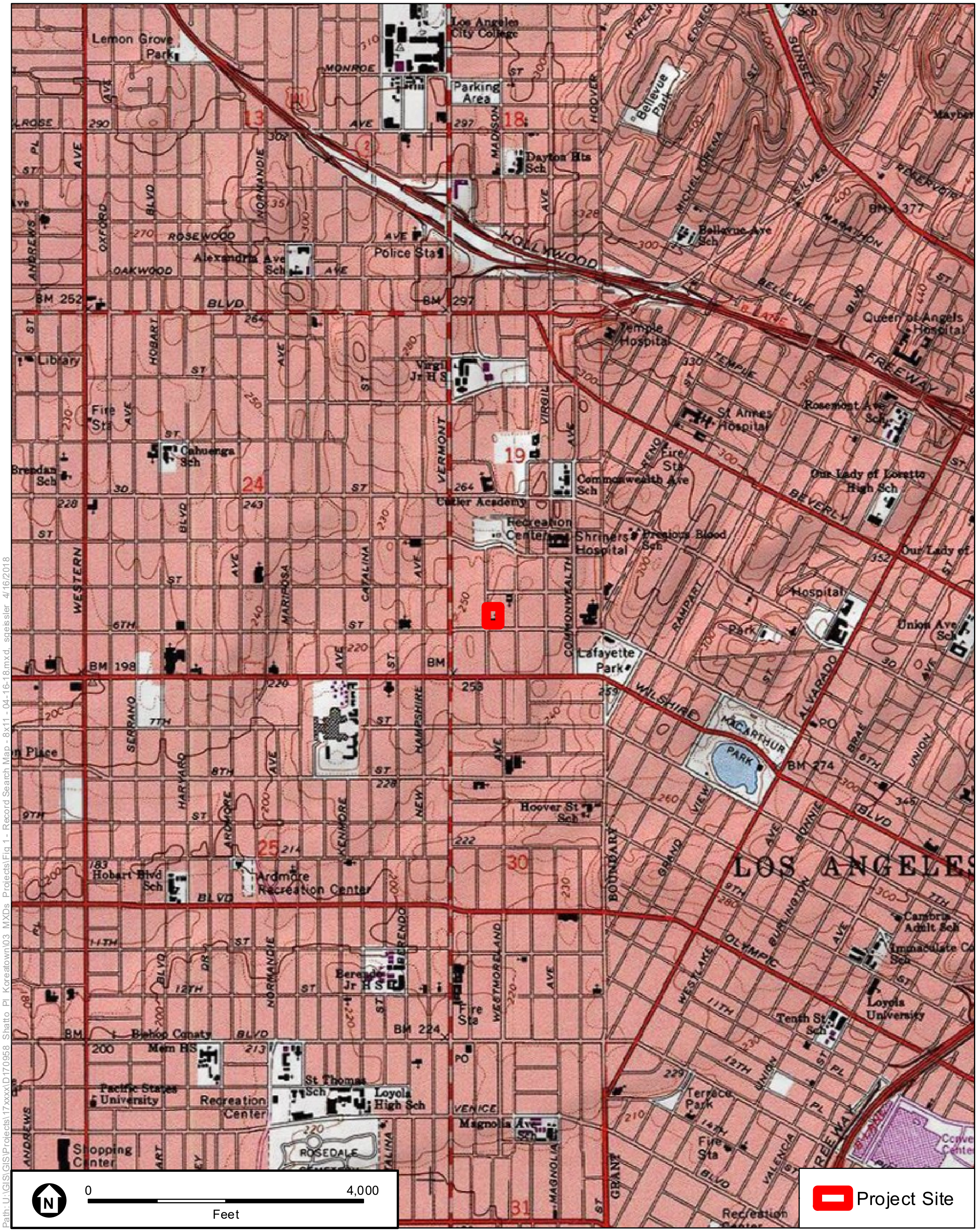
ESA is preparing environmental documentation for the proposed 550 Shatto Place Project ("the Project"). The Project would require the demolition of existing on-site surface parking and school uses to support construction of a mixed-use development with a combination of commercial and residential uses. An existing on-site church would remain.

To ensure that any areas containing previously recorded cultural resources and sacred lands are identified and considered, ESA is requesting a Sacred Lands File search of the Study Area. The Study Area is located in Section 19, Township 1 South, Range 13 West of the Hollywood, CA United States Geological Survey 7.5' topographic quadrangle map (**Figure 1X**, attached).

Thank you for your assistance with our efforts to address possible Native American concerns that may be affected by the proposed project. If you have any questions or need additional information, please contact me at (949) 753-7001 or via email at fclark@esassoc.com.

Sincerely,

Fatima Clark
Archaeologist



SOURCE: USGS Topographic Series (Hollywood, CA).

Shatto Place Koreatown

Path: U:\GIS\GIS\Projects\17xxxx\D170958_Shatto_Pl_Koreatown\03_MXDs_Projects\Fig 1 - Record Search Map - 8x11 - 04-16-18.mxd, sgeissler 4/16/2018

Figure 1X
Record Search Map

ESA

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710

April 23, 2018

Fatima Clark
Environmental Science Associates

Sent by E-mail: fclark@esassoc.com

RE: Proposed 550 Shatto Place Project, City of Los Angeles; Los Angeles USGS Quadrangle, Los Angeles County, California

Dear Ms. Clark:

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed for the area of potential project effect (APE) referenced above with negative results. Please note that the absence of specific site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE.

Attached is a list of tribes culturally affiliated to the project area. I suggest you contact all of the listed Tribes. If they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult. If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact via email: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst
(916) 373-3714

Native American Heritage Commission
Native American Contact List
Los Angeles County
4/23/2018

Fernandeno Tataviam Band of Mission Indians
Beverly Salazar Folkes, Elders Council
1931 Shady Brooks Drive — Tataviam
Thousand Oaks, CA, 91362
Phone: (805) 558 - 1154
folkes9@msn.com

Fernandeno Tataviam Band of Mission Indians
Jairo Avila, Tribal Historic and Cultural Preservation Officer
1019 Second Street, Suite 1 — Tataviam
San Fernando, CA, 91340
Phone: (818) 837 - 0794
Fax: (818) 837-0796
jairo.avila@tataviam-nsn.us

Fernandeno Tataviam Band of Mission Indians
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This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed 550 Shatto Place Project, Los Angeles County.

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550 SHATTO PLACE PROJECT, CITY OF LOS ANGELES, CALIFORNIA

Archaeological Resources Assessment Report

Prepared for

TF Shatto Partnership
11400 W. Olympic Boulevard, Suite 850
Los Angeles, California 90064

December 2018

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550 SHATTO PLACE PROJECT, CITY OF LOS ANGELES, CALIFORNIA

Archaeological Resources Assessment Report

Prepared for:
TF Shatto Partnership
11400 W. Olympic Boulevard, Suite 850
Los Angeles, California 90064

December 2018

Prepared by:
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Report Authors:
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Project Location:
Hollywood (CA) USGS 7.5-minute Topographic Quad;
Township 1 South, Range 13 West, Section 19

Acreage: Approx. 1.18 acres

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Statement of Confidentiality

This report contains confidential cultural resources location information and distribution of this report is restricted. Cultural resources are nonrenewable, and their scientific, cultural, and aesthetic values can be significantly impaired by disturbance. To deter vandalism, artifact hunting, and other activities that can damage cultural resources, the locations of cultural resources are confidential. The legal authority to restrict cultural resources information is in subdivision (r) of Section 6254 and Section 6254.10 of the California Government Code, subdivision (d) of Section 15120 of Title 14 of the California Code of Regulations, Section 304 of the National Historic Preservation Act of 1966, as amended, and Section 9 of the Archaeological Resources Protection Act.

EXECUTIVE SUMMARY

550 Shatto Place Project- Archaeological Resources Assessment Report

Environmental Science Associates (ESA) has been retained by TF Shatto Partnership (Applicant) to prepare an Archaeological Resources Assessment Report for the 550 Shatto Place Project (Project) in support of a Sustainable Communities Environmental Assessment. The Applicant proposes to develop a mixed-use residential and commercial property in the City of Los Angeles (City). The City is the lead agency for the Project pursuant to the California Environmental Quality Act (CEQA).

A record search was conducted on April 17, 2018 at the California Historical Resources Information System (CHRIS) South Central Coastal Information Center (SCCIC) housed at California State University, Fullerton and included a review of all recorded archaeological resources and previous studies within the Project Site and a 1-mile radius of the Project Site. The records search results indicate that 89 cultural resources studies have been conducted within a 1-mile radius of the Project Site. Less than 25 percent of the 1-mile records search radius has been included in previous cultural resources surveys. Of the 89 previous studies, none overlap or are within the Project Site. The records search results also indicate that one historic-period archaeological resource (P-19-003301), comprised of a refuse deposit, has been previously recorded within a 1-mile radius and approximately 110 feet southwest of the Project Site. No archaeological resources have been previously documented within the Project Site.

A Sacred Lands File (SLF) conducted by the California Native American Heritage Commission (NAHC) on April 23, 2018 indicated that no Native American cultural resources are known to be located within the Project Site.

A desktop geoarchaeological review was conducted for the Project in order to characterize the geology of the Project Site and assess the potential for the presence of subsurface archaeological resources in the Project Site. The geoarchaeological review indicates that the Project Site lacks deposits dating to the latest Pleistocene and Holocene, the period for which there is widely accepted evidence for people in Southern California. Therefore, the Project Site has a low sensitivity for encountering prehistoric archaeological resources. Nevertheless, the Project Site contains approximately 5 feet of fill placed in the historic period, which is considered sensitive for historic-period archaeological resources.

An archaeological resources survey of the Project Site was conducted on May 8, 2018. Approximately 15 percent of the Project Site was subject to an opportunistic survey that targeted areas with exposed ground surface, such as planter box areas and the church's garden areas. Approximately 75 percent of the Project Site was not surveyed since the ground surface is covered with a surface parking lot and buildings. The survey did not yield the identification of archaeological resources within the Project Site.

No archaeological resources were identified with the Project Site as a result of this assessment. One historic-period archaeological resource (P-19-003301), comprised of a refuse deposit, has been previously recorded approximately 110 feet southwest of the Project Site, but would not be impacted by the Project. Therefore, the Project would not impact known archaeological resources. The results of the assessment indicate that there is a low likelihood for encountering buried prehistoric archaeological resources within the Project site; however, there is a moderate to high potential for encountering buried historic-period archaeological resources related to previous historic land uses (associated with historic residences). Since Project-related excavation is expected to extend to 65 feet below existing surface, it could encounter historic-period archaeological resources within the upper 5 feet. If the Project encountered subsurface historic-period archaeological resources that qualify as historical or unique archaeological resources under CEQA, it could result in a potentially significant impact to archaeological resources. As such, recommended mitigation measures, including cultural resources sensitivity training and procedures to be followed in the event of the discovery of archaeological resources or human remains, are provided in the *Conclusions and Recommendations* section at the close of this report.

550 SHATTO PLACE PROJECT

Archaeological Resources Assessment Report

Introduction

Environmental Science Associates (ESA) has been retained by TF Shatto Partnership (Applicant) to prepare an Archaeological Resources Assessment Report for the 550 Shatto Place Project (Project) in support of a Sustainable Communities Environmental Assessment. The Applicant proposes to develop a mixed-use residential and commercial property in the City of Los Angeles (City). The City is the lead agency for the Project pursuant to the California Environmental Quality Act (CEQA).

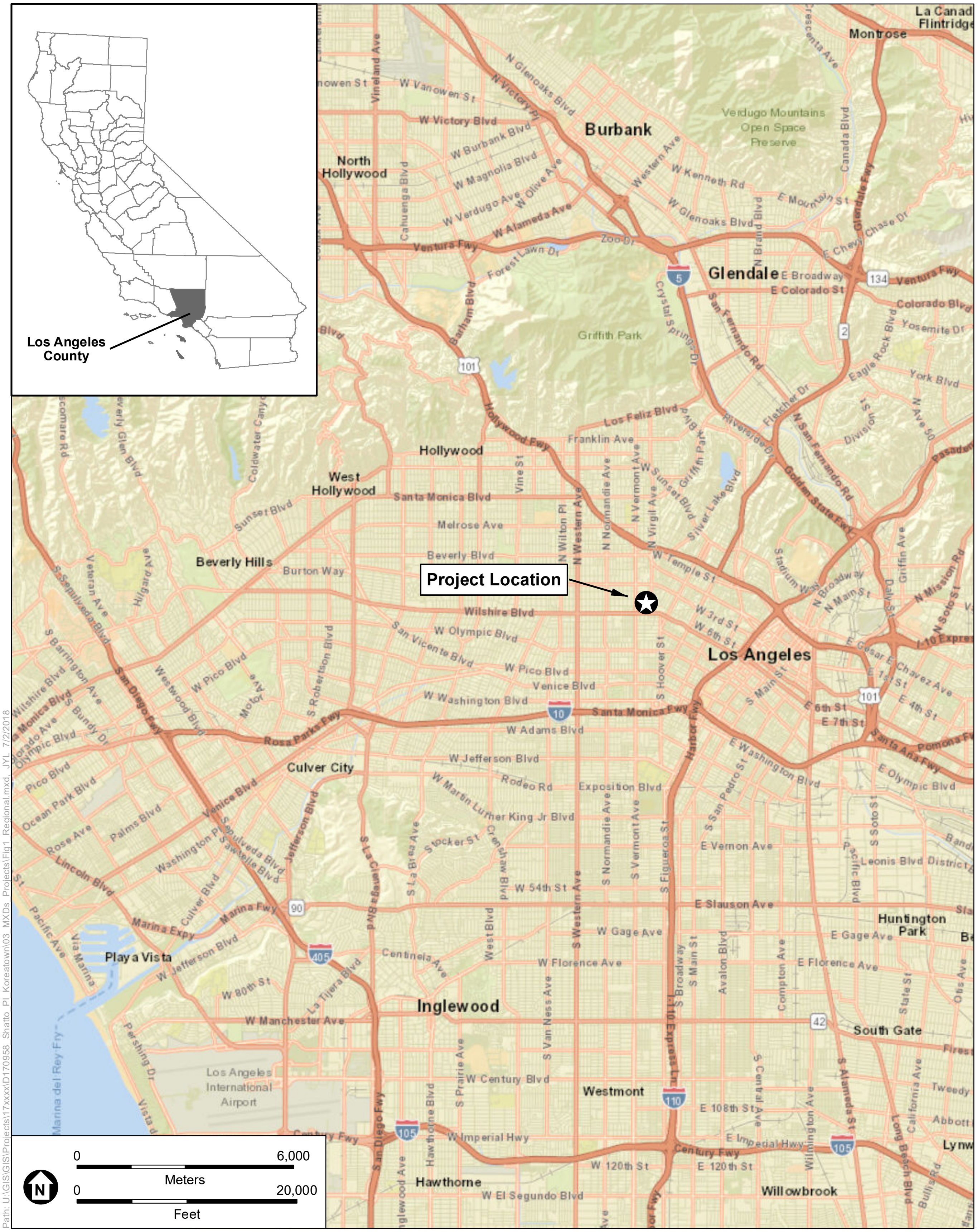
ESA personnel involved in the preparation of this report are as follows: Monica Strauss, M.A., RPA, Project director; Sara Dietler, B.A., Principal Investigator; Henry Chodsky, B.A., surveyor; Fatima Clark, B.A., report author; and Chris Lockwood, PhD., RPA, geoarchaeologist. Candace Ehringer, M.A., RPA, provided senior review of the report. Resumes of key personnel are included in **Appendix A**.

Project Location

The 1.18-acre Project Site is located within the Koreatown neighborhood in the City of Los Angeles (**Figure 1**). The Project is situated at 522, 530, and 550 S. Shatto Place (also known as 3119 W. 6th Street) and is comprised of three lots (Assessor Parcel Number 5077-004-033) (**Figure 2**). It is bound on the north by office and educational uses, on the south by 6th Street, on the east by commercial and residential uses, and on the west by Shatto Place. Specifically, the Project Site is situated in Section 19 of Township 1 South, Range 13 West on the Hollywood, CA U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (**Figure 3**).

Project Description

The Project consists of the construction of an approximately 222,944 square foot mixed-use high-rise building comprising a maximum of 256 residential units [252 apartments and four (4) townhomes], and 2,507 square feet of office uses. In addition, the Applicant would repurpose the former First English Evangelical Lutheran Church that contains a school and convert it to restaurant uses. A total of 329 parking spaces are proposed within four subterranean levels. Office space is proposed below the new townhouse units in front of the new tower and would have a subterranean connection to the repurposed church building.



SOURCE: ESRI

Shatto Place Koreatown

Figure 1
Regional Location Map

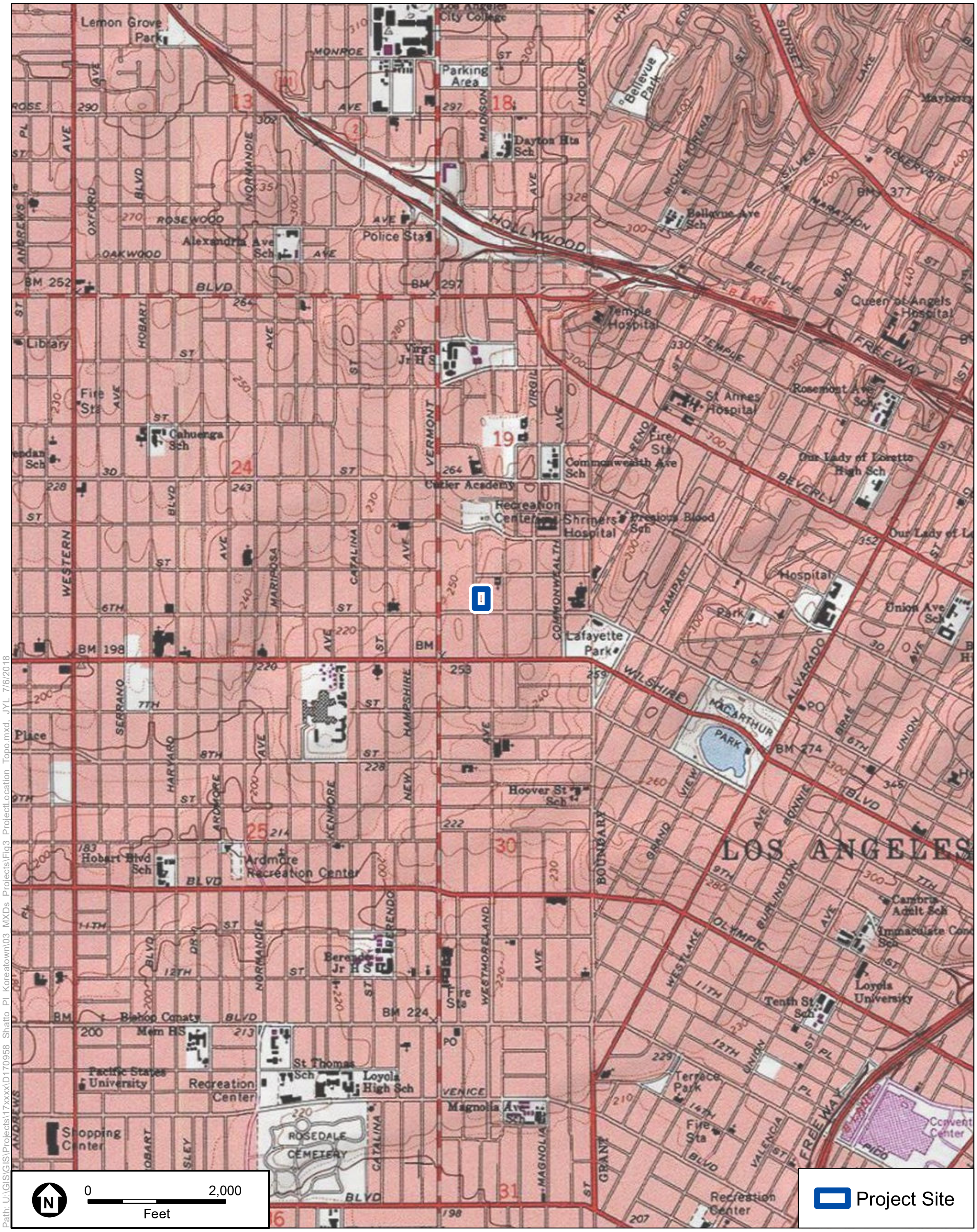
Path: U:\GIS\GIS\Projects\17xxxx\D170958_Shatto_Pl_Koreatown\03_MXDs_Projects\Fig1_Regional.mxd, JYL 7/2/2018

SOURCE: ESRI 2017

Shatto Place Koreatown

Figure 2
Project Site

ESA



SOURCE: USGS 7.5' Topo Quad Hollywood 1978, 1982

Shatto Place Koreatown

Figure 3
Project Location

ESA

The ground floor level of the tower would include four (4) office spaces, five (5) parking stalls, and the residential lobby area and office. Level 2 would contain outdoor and indoor amenity spaces, along with the proposed townhouses. Apartment units are proposed to be located on levels 3 through 27, with penthouse apartments on levels 28 and 29. Levels 30 and 31 would include additional amenity areas, such as a pool. Level 31 would be used for mechanical equipment. Maximum excavation depths related to the construction of the Project is expected to reach depths of 65 feet below existing ground surface.

Setting

Prehistoric Setting

The earliest evidence of occupation in the Los Angeles area dates to at least 9,000 years before present (B.P.) and is associated with a period known as the Millingstone Cultural Horizon (Wallace 1955; Warren 1968). Departing from the subsistence strategies of their nomadic big-game hunting predecessors, Millingstone populations established more permanent settlements. These settlements were located primarily on the coast and in the vicinity of estuaries, lagoons, lakes, streams, and marshes where a variety of resources including seeds, fish, shellfish, small mammals, and birds were exploited. Early Millingstone occupations are typically identified by the presence of handstones (manos) and millingstones (metates), while those Millingstone occupations dating later than 5,000 years B.P. contain a mortar and pestle complex as well, signifying the exploitation of acorns in the region.

Although many aspects of Millingstone culture persisted, by 3,500 years B.P. a number of socioeconomic changes occurred (Erlandson 1994; Wallace 1955; Warren 1968). These changes are associated with the period known as the Intermediate Horizon (Wallace 1955). Increased populations in the region necessitated the intensification of existing terrestrial and marine resources (Erlandson 1994). This was accomplished in part through the use of the circular shell fishhook on the coast, and more abundant and diverse hunting equipment. Evidence for shifts in settlement patterns has been noted at a variety of locations at this time and is seen by many researchers as reflecting increasingly territorial and sedentary populations. The Intermediate Horizon marks a period in which specialization in labor emerged, trading networks became an increasingly important means by which both utilitarian and non-utilitarian materials were acquired, and travel routes were extended. Archaeological evidence suggests that the margins of numerous rivers, marshes, and swamps within the Los Angeles River Drainage served as ideal locations for prehistoric settlement during this period. These well-watered areas contained a rich collection of resources and are likely to have been among the more heavily trafficked travel routes.

The Late Prehistoric period, spanning from approximately 1,500 years B.P. to the mission era, is the period associated with the florescence of the contemporary Native American group known as the *Gabrielino* (Wallace 1955). Coming ashore near Malibu Lagoon or Mugu Lagoon in October of 1542, *Juan Rodriguez Cabrillo* was the first European to make contact with the *Gabrielino* Indians. Occupying the southern Channel Islands and adjacent mainland areas of Los Angeles and Orange Counties, the *Gabrielino* are reported to have been second only to their Chumash neighbors in terms of population size, regional influence, and degree of sedentism (Bean and Smith 1978). The *Gabrielino* are estimated to have numbered around 5,000 in the pre-contact period (Kroeber 1925) and maps produced by early explorers indicate that at least 26 *Gabrielino* villages were within proximity to known Los Angeles River courses, while an additional 18 villages were reasonably close to the river (Gumprecht 1999). Subsistence consisted of hunting, fishing, and gathering. Small terrestrial game was hunted with deadfalls, rabbit drives, and by burning undergrowth, while larger game such as deer were hunted using bows and arrows. Fish were taken by hook and line, nets, traps, spears, and poison (Bean and Smith 1978; Reid 1939 [1852]). The primary plant resources were the acorn, gathered in the fall and processed with mortars and pestles, and various seeds that were harvested in late spring and summer and ground with manos and metates. The seeds included chia and other sages, various grasses, and islay or holly leafed-cherry (Reid 1939 [1852]).

Ethnographic Setting

Gabrielino

The Project Site is located in a region traditionally occupied by the Takic-speaking Gabrielino Indians. The term "Gabrielino" is a general term that refers to those Native Americans who were administered by the Spanish at the Mission San Gabriel Arcángel. Prior to European colonization, the Gabrielino occupied a diverse area that included: the watersheds of the Los Angeles, San Gabriel, and Santa Ana rivers; the Los Angeles basin; and the islands of San Clemente, San Nicolas, and Santa Catalina (Kroeber, 1925). Their neighbors included the Chumash and Tataviam to the north, the Juañeno to the south, and the Serrano and Cahuilla to the east. The Gabrielino are reported to have been second only to the Chumash in terms of population size and regional influence (Bean and Smith, 1978). The Gabrielino language was part of the Takic branch of the Uto-Aztecan language family.

The Gabrielino Indians were hunter-gatherers and lived in permanent communities located near the presence of a stable food supply. Subsistence consisted of hunting, fishing, and gathering. Small terrestrial game was hunted with deadfalls, rabbit drives, and by burning undergrowth, while larger game such as deer were hunted using bows and arrows. Fish were taken by hook and line, nets, traps, spears, and poison (Bean and Smith, 1978). The primary plant resources were the acorn, gathered in the fall and processed in mortars and pestles, and various seeds that were harvested in late spring and summer and ground with manos and metates. The seeds included chia and other sages, various grasses, and islay or holly-leafed cherry. Community populations generally ranged from 50 to 100 inhabitants, although larger settlements may have existed. The Gabrielino are estimated to have had a population numbering around 5,000 in the pre-contact period (Kroeber, 1925).

The Late Prehistoric period, spanning from approximately 1,500 years B.P. to the mission era, is the period associated with the florescence of the Gabrielino (Wallace, 1955). Coming ashore near Malibu Lagoon or Mugu Lagoon in October of 1542, Juan Rodriguez Cabrillo was the first European to make contact with the Gabrielino Indians. The Gabrielino are reported to have been second only to their Chumash neighbors in terms of population size, regional influence, and degree of sedentism (Bean and Smith, 1978). Maps produced by early explorers indicate that at least 26 Gabrielino villages were within proximity to known Los Angeles River courses, while an additional 18 villages were reasonably close to the river (Gumprecht, 2001).

The closest village to the Project Site is the village of *Yangna.* The exact location of *Yangna*, within downtown Los Angeles continues to be debated, although some believe it to have been located at the present-day location of the Civic Center (approximately 2.65 miles southeast of the Project Site) (McCawley, 1996). Other proposed locations are near the present-day Union Station (Chartkoff and Chartkoff, 1972:64), to the south of the old Spanish Plaza, and near the original site of the Bella Union Hotel located on the 300 Block of North Main Street, approximately 2.9 to 3.15 miles southeast of the Project Site (Robinson, 1963:83, as cited in Dillon, 1994:30). A second community or village, named *Geveronga,* may have been located in the vicinity of the current downtown Los Angeles' city center, reported in the San Gabriel baptismal records as located "in the rancheria adjoining the Pueblo of Los Angeles" (McCawley, 1996:57).

Historic Setting

The first European exploration of the area began in 1542 when Spanish explorer Juan Rodriguez Cabrillo arrived by sea during his navigation of the California coast. Sebastian Vizcaino arrived in 1602 during his expedition to explore and map the western coast that Cabrillo visited 60 years earlier. In 1769, the Gaspar de Portolá expedition passed through the region on its way from San Diego to the San Francisco Bay area (McCawley, 1996). When Portolá's expedition passed through the Los Angeles area, they reached the San Gabriel Valley on August 2 and traveled west through a pass between two hills where they encountered the Los Angeles River and camped on its east bank near the present-day North Broadway Bridge and the entrance to Elysian Park. This location has been designated California Historic Landmark Number 655, the Portolá Trail Campsite. Father Crespi (a member of Portolá's party) indicated in his diaries that on that day they "entered a spacious valley, well grown with cottonwoods and alders, among which ran a beautiful river. This plain where the river runs is very extensive and…is the most suitable site for a large settlement" (The River Project, 2001). He goes on to describe this "green, lush valley"; its "very full flowing, wide river"; the "riot of color" in the hills; and the abundance of native grapevines, wild roses, grizzly, antelope, quail and steelhead trout. Crespi observed that the soil was rich and "capable of supporting every kind of grain and fruit which may be planted." The river was named "El Rio y Valle de Nuestra Señora La Reina de Los Ángeles de la Porciúncula."

Missions were established in the years that followed the Portolá expedition, the fourth being the Mission San Gabriel Arcángel founded in 1771 near the present-day City of Montebello, approximately 10.75 miles northeast of the Project Site. By the early 1800s, the majority of the surviving Gabrielino population had entered the mission system. The Gabrielino inhabiting Los Angeles County were under the jurisdiction of either Mission San Gabriel or Mission San Fernando. Mission life offered the Indians security in a time when their traditional trade and political alliances were failing, and epidemics and subsistence instabilities were increasing (Jackson, 1999).

On September 4, 1781, which was 12 years after Crespi's initial visit, the Pueblo de la Reina de los Ángeles was established not far from the site where Portolá and his men camped. Watered by the river's ample flow and the area's rich soils, the original pueblo occupied 28 square miles and consisted of a central square, surrounded by 12 houses, and a series of 36 agricultural fields occupying 250 acres, plotted to the east between the town and the river (Gumprecht, 2001).

An irrigation system that would carry water from the river to the fields and the pueblo was the communities' first priority and was constructed almost immediately. The main irrigation ditch, or Zanja Madre, was completed by the end of October 1781. It was constructed in the area of present-day Elysian Park, and carried water south to the agricultural lands situated just east of the pueblo (Gumprecht, 2001).

The authority of the California missions gradually declined, culminating with their secularization in 1834. Although the Mexican government directed that each mission's lands, livestock, and equipment be divided among its converts, the majority of these holdings quickly fell into non-Indigenous hands. Mission buildings were abandoned and quickly fell into decay. If mission life was difficult for Native Americans, secularization was typically worse. After two generations of dependence on the missions, they were suddenly disenfranchised. After secularization, "nearly all of the Gabrielinos went north while those of San Diego, San Luis, and San Juan overran this county, filling the Angeles and surrounding ranchos with more servants than were required" (Reid, 1977 [1851]:104). Upon his 1852 visit to Los Angeles, John Russel Barlett wrote,

> *I saw more Indians about this place than in any part of California I had yet visited. They were chiefly mission Indians, i.e., those who had been connected with the missions and had derived their support from them until the suppression of those establishments. They are a miserable, squalid-looking set, squatting or lying about the corners of the streets with no occupation. They have no means of obtaining a living, as their lands are taken from them, and the missions for which they labored and which provided after a sort for many thousands of them, are abolished (as cited in Sugranes 1909:77).*

The first party of U.S. immigrants arrived in Los Angeles in 1841, although surreptitious commerce had previously been conducted between Mexican California and residents of the United States and its territories. Included in this first wave of immigrants were William Workman and John Rowland, who soon became influential landowners. As the possibility of a takeover of California by the United States loomed large, the Mexican government increased the number of land grants in an effort to keep the land in the hands of upper-class *Californios* like the Domínguez, Lugo, and Sepúlveda families (Wilkman and Wilkman, 2006:14–17). Governor Pío Pico and his predecessors made more than 600 rancho grants between 1833 and 1846, putting most of the state's lands into private ownership for the first time (Gumprecht, 2001). Having been established as a pueblo, property within Los Angeles could not be dispersed by the governor, and this task instead fell under the city council's jurisdiction (Robinson, 1979).

When Los Angeles was connected to the transcontinental railroad via San Francisco on September 5, 1876, it experienced a significant boost in population. The City would experience its greatest growth in the 1880s when two more direct rail connections to the East Coast were constructed. The Southern Pacific completed its second transcontinental railway, the Sunset Route from Los Angeles to New Orleans, in 1883 (Orsi, 2005). In 1885, the Santa Fe Railroad completed a competing transcontinental railway to San Diego, with connecting service to Los

Angeles (Mullaly and Petty, 2002). The resulting fare wars led to an unprecedented real estate boom, as well as affordable cross-country fares for immigrants (Dinkelspiel, 2008).

History of the Project Site

For information on the history of the Project Site, refer to the *Historic Maps, Phase I ESA, and HRE Reports Review* section of this report.

Regulatory Framework

Numerous laws and regulations require federal, state, and local agencies to consider the effects a project may have on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies.

State

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the state and is codified at *Public Resources Code (PRC) Section 21000 et seq.* CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or unique archaeological resources. Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

The *CEQA Guidelines* (Title 14 California Code of Regulations [CCR] Section 15064.5) recognize that historical resources include: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (California Register); (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA and Section 15064.5 of the *CEQA Guidelines* apply. If an archaeological site does not meet the criteria for a historical resource contained in the *CEQA Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is as a unique archaeological resource. As defined in Section 21083.2 of CEQA a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required. The *CEQA Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (*CEQA Guidelines* Section 15064.5(c)(4)).

A significant effect under CEQA would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* Section 15064.5(a). Substantial adverse change is defined as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired" (*CEQA Guidelines* Section 15064.5(b)(1)). According to *CEQA Guidelines* Section 15064.5(b)(2), the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that:

A. Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
B. Account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
C. Convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a Lead Agency for purposes of CEQA.

California Register of Historical Resources

The California Register is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for eligibility for the California Register are based upon National Register of Historic Places (National Register) criteria (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a prehistoric or historic-period property must be significant at the local, state, and/or federal level under one or more of the following four criteria:

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

A resource eligible for the California Register must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally determined eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and,
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and,
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

California Health and Safety Code Section 7050.5

California Health and Safety Code Section 7050.5 requires that in the event human remains are discovered, the County Coroner be contacted to determine the nature of the remains. In the event the remains are determined to be Native American in origin, the Coroner is required to contact the NAHC within 24 hours to relinquish jurisdiction.

California Public Resources Code Section 5097.98

California PRC Section 5097.98, as amended by Assembly Bill 2641, provides procedures in the event human remains of Native American origin are discovered during project implementation. PRC Section 5097.98 requires that no further disturbances occur in the immediate vicinity of the discovery, that the discovery is adequately protected according to generally accepted cultural and archaeological standards, and that further activities take into account the possibility of multiple burials. PRC Section 5097.98 further requires the NAHC, upon notification by a County Coroner, designate and notify a Most Likely Descendant (MLD) regarding the discovery of Native American human remains. Once the MLD has been granted access to the site by the landowner and inspected the discovery, the MLD then has 48 hours to provide recommendations to the landowner for the treatment of the human remains and any associated grave goods.

In the event that no descendant is identified, or the descendant fails to make a recommendation for disposition, or if the land owner rejects the recommendation of the descendant, the landowner may, with appropriate dignity, reinter the remains and burial items on the property in a location that will not be subject to further disturbance.

California Government Code Sections 6254(r) and 6254.10

These sections of the California Public Records Act were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. Section 6254(r) explicitly authorizes public agencies to withhold information from the public relating to "Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission." Section 6254.10 specifically exempts from disclosure requests for "records that relate to archaeological site information and reports, maintained by, or in the possession of the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the Native American Heritage Commission, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a Native American tribe and a state or local agency."

Assembly Bill 52 and Related Public Resources Code Sections

Assembly Bill (AB) 52 was approved by California State Governor Edmund Gerry "Jerry" Brown, Jr. on September 25, 2014. The act amended California PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which a Notice of Preparation (NOP) or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) will be filed on or after July 1, 2015. The primary intent of AB 52 was to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC Section 21074(a)(1) and (2) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" that are either included or determined to be eligible for inclusion in the California Register or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to Appendix G of the CEQA Guidelines, which was approved by the Office of Administrative Law on September 27, 2016.

PRC Section 21080.3.1 requires that within 14 days of a lead agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency provide formal notification to the designated contact, or a tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency (PRC Section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the lead agency's formal notification and the lead agency must begin consultation within 30 days of receiving the tribe's request for consultation (PRC Sections 21080.3.1(d) and 21080.3.1(e)).

PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project's impacts on the tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2(b)).

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an EIR or adopt an MND (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

Local

City of Los Angeles General Plan

The City of Los Angeles General Plan (adopted 2001) states as its objective, to "protect the City's archaeological and paleontological resources for historical, cultural, research, and/or educational purposes" by continuing "to identify and protect significant archaeological and paleontological resources known to exist or that are identified during land development, demolition, or property modification activities."

In addition, the City will:

> *continue to protect historic and cultural sites and/or resources potentially affected by proposed land development, demolition, or property modification activities…The City's environmental guidelines require the applicant to secure services of a bona fide archaeologist to monitor excavations or other subsurface activities associated with a development project in which all or a portion is deemed to be of archaeological significance. Discovery of archaeological materials may temporarily halt the project until the site has been assessed, potential impacts evaluated and, if deemed appropriate, the resources protected, documented and/or removed (City of Los Angeles, 2001).*

Archival Research

SCICC Records Search

A records search for the Project was conducted on April 17, 2018 at the California Historical Resources Information System (CHRIS) South Central Costal Information Center (SCCIC) housed at California State University, Fullerton. The records search included a review of all recorded archaeological resources and previous studies within the Project Site and a 1-mile radius.

Previous Cultural Resources Investigations

The records search results indicate that 89 cultural resources studies have been conducted within a 1-mile radius of the Project Site (**Table 1**). Less than 25 percent of the 1-mile records search radius has been included in previous cultural resources surveys. Of the 89 previous studies, none overlap or are within the Project Site.

TABLE 1
PREVIOUS CULTURAL RESOURCES INVESTIGATIONS

SCCIC# (LA-)	Author	Title	Year
01578	Anonymous	*Technical Report Archaeological Resources Los Angeles Rapid Rail Transit Project Draft Environmental Impact Statement and Environmental Impact Report*	1983
01844	Greenwood, Roberta S. and John M. Foster	*Cultural Resources Survey: Korea Plaza Hotel*	1989
02089	Anonymous	*Draft Environmental Impact Report L.A. EIR #89-0152-zc (gpa) SCH #89072616 Korea Plaza Hotel a Mixed Commercial for Development*	1990
03103	Greenwood, Roberta S.	*Cultural Resources Impact Mitigation Program Angeles Metro Red Line Segment 1*	1993
03496	Anonymous	*Draft Environmental Impact Report Transit Corridor Specific Plan Park Mile Specific Plan Amendments*	
04514	Slawson, Dana N.	*Historical Resources Impact Assessment for Proposed Improvements to Macarthur Park, Los Angeles, California*	1999

SCCIC# (LA-)	Author	Title	Year
05074	Duke, Curt	*Cultural Resource Assessment for Pacific Bell Wireless Facility La 239-04, County of Los Angeles, Ca*	2000
05084	Duke, Curt	*Cultural Resource Assessment for Pacific Bell Mobile Services Facility La 664-04, County of Los Angeles, Ca*	1999
05088	Duke, Curt	*Cultural Resource Assessment for Pacific Bell Mobile Services Facility La 239-01, County of Los Angeles, Ca*	1999
05089	Duke, Curt	*Cultural Resource Assessment for the AT&T Wireless Services Facility Number R117.5, County of Los Angeles, Ca*	1999
05100	Lapin, Philippe	*Cultural Resource Assessment for Pacific Bell Wireless Facility La 239-03, County of Los Angeles, Ca*	2000
05336	Lapin, Philippe	*Cultural Resource Assessment for Pacific Bell Wireless Facility Sm 919-01, County of Los Angeles, Ca*	2000
05337	Wallock, Nicole	*Cultural Resource Assessment Cingular Wireless Facility No. Sm 099-01 Los Angeles County, California*	2001
05344	Duke, Curt	*Cultural Resource Assessment Cingular Wireless Facility No. Sm 057-01 Los Angeles County, California*	2001
05345	Duke, Curt	*Cultural Resource Assessment Cingular Wireless Facility No. Sm 004-01 Los Angeles County, California*	2001
05349	Duke, Curt	*Cultural Resource Assessment for AT&T Fixed Wireless Services Facility Number La_057_a, County of Los Angeles, California*	2001
06395	Unknown	*Housing for Homeless Veterans, Veterans Administration Grant and Per Diem Transitional Housing Program, Los Angeles County*	2000
06411	McKenna, Jeanette A.	*Cultural Resource Assessment/evaluation for Cingular Wireless Site La-239-05, Los Angeles County, California*	2001
06416	Duke, Curt and Judith Marvin	*Cultural Resource Assessment Cingular Wireless Facility No. Sm 099-04 Los Angeles County, California*	2001
06431	Unknown	*Nextel Communications CA-7841/Kingsley 3727 West Sixth Street Los Angeles, California*	
06465	Duke, Curt and Judith Marvin	*Cultural Resource Assessment AT&T Wireless Services Facility No. D 423b Los Angeles County, California*	2002
07061	Duke, Curt	*Cultural Resource Assessment for AT&T Fixed Wireless Services Facility Number La_057_a, County of Los Angeles, California*	2001
07066	Duke, Curt and Judith Marvin	*Cultural Resource Assessment Cingular Wireless Facility No. Sm 201-01 Los Angeles County, California*	2002
07346	McKenna, Jeanette A.	*An Archaeological and Paleontological Overview for the Los Angeles Unified School District Central Region Elementary School No. 18, City of Los Angeles. Los Angeles Co., California Historic Cultural Resources Study: the Los Angeles Unified School District*	2005
07350	Dolan, Christy and Monica Strauss	*Historical Architectural Survey and Evaluation for the Proposed Mid-city New Police Station Project City of Los Angeles, Los Angeles County, California*	2003
07355	Kyle, Carolyn E.	*Cultural Resource Assessment for Cingular Wireless Facility Sm202-01 City of Los Angeles, California*	2002
07360	Wlodarski, Robert J.	*A Phase I Archaeological Study for the Proposed Emerald Terrace Apartments Project [208-232 Lucas Avenue, 273-279 Emerald Street, 1345-1353 Emerald Drive] City of Los Angeles, County of Los Angeles, California*	2004
07361	Wlodarski, Robert J.	*A Phase I Archaeological Study for the Proposed Magnolia on Lake Project Located at 201-207 South Lake Street and 2216-2220 West 2nd Street City of Los Angeles, County of Los Angeles, California*	2004

SCCIC# (LA-)	Author	Title	Year
07362	Bartoy, Kevin M.	*Cultural Resource Assessment Cingular Wireless Facility No. Sc-610-01 City and County of Los Angeles, California*	2004
07372	Wlodarski, Robert J.	*A Phase I Archaeological Study for the Proposed Mugunghwa Senior Center Affordable Housing Project Located at 965-975 S. Normandie Avenue and 950-954 S. Irolo Street City of Los Angeles, County of Los Angeles, California*	2004
07380	McKenna, Jeanette A.	*Cultural Resources Investigations: a Reconnaissance Survey of the Proposed Central Los Angeles Area New Middle School No. 3, Los Angeles, California*	2004
07388	Snyder, T. Beth	*Cultural Resources Survey for the Los Angeles Department of Water and Power First Street Trunk Line Project, Los Angeles, California*	2005
07562	Greenwood, Roberta S.	*Additional Information for Dseis, Core Study Alignments 1, 2, 3, 4, and 5*	1987
07565	Unknown	*Technical Report Archaeology Los Angeles Rail Rapid Transit Project "Metro Rail" Core Study, Candidate Alignments 1 to 5*	1987
07566	Hatheway, Roger G. and Kevin J. Peter	*Technical Report Dseis, Core Study Alignments 1, 2, 3, 4, and 5*	1987
07762	Bonner, Wayne H.	*Cultural Resources Records Search Results and Site Visit for T-Mobile Candidate La03269b (Sixth Street Storage), 2500 West 6th Street, Los Angeles, Los Angeles County, California*	2006
07763	Bonner, Wayne H.	*Cultural Resources Records Search and Site Visit Results for Cingular Wireless Candidate, Lsanca0064e (rampart) 307 North Rampart Boulevard, Los Angeles, Los Angeles County, California*	2006
07769	Bonner, Wayne H.	*Direct and Indirect Ape Historic Architectural Assessments for Sprint Telecommunications Facility Candidate La60x428d (south Mariposa Apartments) 251 South Mariposa Avenue, Los Angeles, Los Angeles County, California*	2004
07770	Bonner, Wayne H., Dice, Michael, Taniguchi, Christeen, and Robert J. Wlodarski	*Results of a Historic Architectural Evaluation and Historic Survey for Bechtel/AT&T Telecommunications Facility 951004042b (260 Mariposa), 260 South Mariposa Avenue, Los Angeles, Los Angeles County, California*	2003
07771	Wlodarski, Robert J.	*A Phase 1 Archaeological Study for the Proposed Regency at Robinson Affordable Housing Development Project Located at 3201-3221 W. Temple Street City of Los Angeles, County of Los Angeles, California*	2006
07997	Billat, Lorna	*FCC Form 621 (section 106) Submittal Beverly Blvd/rs-la-0220b, Los Angeles City and County, California*	2006
07998	Galvin, Andrea	*Historic Architectural Survey and Section 106 Compliance for a Proposed Wireless Telecommunications Service Facility Located on a Religious Building Located at 760 S. Westmoreland Avenue in the City of Los Angeles, (Los Angeles County), California*	2004
08003	Van Horn, David M., White, Laurie S., and Robert S. White	*Historic American Building Survey Report Conducted in Conjunction With the KEHE/KFI Radio Broadcast Studio Building HANS/HAER Program, 141 North Vermont Avenue, City of Los Angeles, California*	2002
08008	Bonner, Wayne H.	*Cultural Resource Survey, and Direct Ape and Indirect Ape Historic Architectural Assessments for Sprint Telecommunications Facility Candidate La60xc165a (clinica), 2412 West 7th Street, Los Angeles, Los Angeles County, California*	2004
08020	Anonymous	*Technical Report: Cultural Resources Los Angeles Rail Rapid Transit Project "metro Rail" Core Study*	1987

SCCIC# (LA-)	Author	Title	Year
08028	Galvin, Andrea	*Historic Architectural Survey and Section 106 Compliance for a Proposed Wireless Telecommunications Service Facility Located on a Building at 3301 West 8th Street, Aka 761 South Normandie Avenue in the City of Los Angeles, (Los Angeles County), California*	2004
08124	Wood, Catherine M.	*Archaeological Survey Report for the Seven Maples Senior Apartments Project Located at 2530-2618-2632 West 7th Street and 702-704 South Rampart Boulevard, Los Angeles, California*	2007
08125	Wood, Catherine M.	*Archaeological Survey Report for the Berendo Apartments Project Located at 1035-1039 Berendo Street, Los Angeles, California*	2007
08251	Gust, Sherri and Heather Puckett	*Los Angeles Metro Red Line Project, Segments 2 and 3 Archaeological Resources Impact Mitigation Program Final Report of Findings*	2004
08261	Crawford, Kathleen and Wayne Bonner	*Cultural Resources Records Search and Site Visit Results for Sprint Nextel Candidate La03xc398d (Burlington), 2007 West 3rd Street , Los Angeles, Los Angeles County, California*	2007
08266	Wood, Catherine M.	*Archaeological Survey Report for the Ardmore Heights Apartments Project Located at 959-961 and 963-973 S. Ardmore Avenue, Los Angeles, California*	2007
08950	Wood, Catherine M.	*Archaeological Survey Report for the 7th & Coronado Family Apartments Project Located at 2614 & 2614 1/2 West 7th Street and 717-723 South Coronado Street, Los Angeles, California*	2007
09542	Bonner, Wayne H. and Kathleen Crawford	*Direct APE Historic Architectural Assessment for T-Mobile Candidate SV11703B (Wilshire Catalina), 3325 Wilshire Blvd, Los Angeles, Los Angeles County, California.*	2008
09610	Bonner, Wayne H. and Kathleen A. Crawford	*Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate SV11563I (Hobart and 3rd), 300 South Hobart Boulevard, Los Angeles, Los Angeles County, California.*	2008
09806	Dana E. Supernowicz	*Collocation Submission Packet for A-American Storage, 6th Street, Los Angeles*	2009
10149	Stewart, Noah M.	*Finding of no adverse effect: US 101 from Alameda Street Underpass to Barham Boulevard Overcrossing*	2009
10309	Bonner, Wayne H. and Kathleen Crawford	*Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Candidate LAR117 (West 3rd St), 2007 West 3rd St., Los Angeles, Los Angeles County, CA.*	2009
10314	Bonner, Wayne and Kathleen A. Crawford	*Cultural Resources Records Search and Site Visit Results for T-Mobile USA Candidate SV11761A (California Trinity University), 2333 Beverly Blvd., Los Angeles, Los Angeles County, CA.*	2009
10335	Bonner, Wayne H.	*Cultural Resources Records Search, Site Visit Results, and Direct APE Historic Architectural Assessment for Clearwire Candidate CA-LOS6211A/CA6584 (Burlington), 1021 South Park View St., Los Angeles, Los Angeles County, CA.*	2009
10358	Bonner, Wayne, Williams, Sarah, and Kathleen Crawford	*Cultural Resource Records Search, Site Visit Results, and Direct APE Historic Architectural Assessment for Clearwire Candidate CA-LOS6076/CA6245 (MacArthur Park), 310 South Alvarado Street, Los Angeles, Los Angeles County, California*	2009
10507	Anonymous	*Technical Report - Historical/Architectural Resources - Los Angeles Rail Rapid Transit Project "Metro Rail" Draft Environmental Impact Statement and Environmental Impact Report*	1983
10620	Supernowicz, Dana	*Cultural resources Study of the 738 Mariposa Apt Project, AT&T Site No. A-EL0083B, 738 Mariposa Avenue, Los Angeles, California 90005*	2009

SCCIC# (LA-)	Author	Title	Year
10918	Bonner, Wayne	*Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Facility LA0003-01, USID 24286 (Mariposa Apartments), 260 South Mariposa Avenue, Los Angeles, Los Angeles County, California*	2011
11121	Beckley, Luvina	*Request for Determination RE 36 CFR Part 800, Section 106 of the National Historic Preservation Act, Site Address: 621 South Virgil Avenue, Los Angeles, CA 90005*	2004
11283	Loftus, Shannon	*Cultural Resource Records Search Records Search and Site Survey - Clearwire Site CA-LOS4749A Clinica, 2412 West 7th Street, Los Angeles, Los Angeles County, California 90057*	2010
11384	Eggemeyer, Emilie	*Verizon Wireless - Temple Park/10363 - Trileaf Project #315875 2333 W. Beverly Blvd, Los Angeles, CA 90057 Los Angeles County, Hollywood Quadrangle (DeLorme)*	2011
11389	Bonner, Wayne and Kathleen Crawford	*Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Candidate LAR117-01, USID 11783 (West 3rd Street), 2007 West 3rd Street, Los Angeles County, California*	2011
11572	Brandman, Jason	*Final Environmental Impact Report Belmont New Elementary School No. 6, State Clearinghouse No. 2001101116*	2002
11584	Bonner, Wayne	*Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Candidate LA0345-01, USID 27363 (Lola's Beauty Shop), 2221 West Olympic Boulevard, Los Angeles, Los Angeles County, California*	2011
11615	Bonner, Wayne	*Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Candidate LAR117-01, USID 11783 (West 3r Street), 2007 West 3rd Street, Los Angeles, Los Angeles County, California*	2011
11642	Daly, Pam and Nancy Sikes	*Westside Subway Extension Project, Historic Properties and Archaeological Resources Supplemental Survey Technical Reports*	2012
11680	O'Neil, Stephen	*Phase I Archaeological Survey for the Proposed Vermont Avenue/Highway 101 (Hollywood Freeway) Bridge Widening Project, City of Los Angeles, Los Angeles County, California*	2010
11696	Loftus, Shannon	*Cultural Resource Records Search and Site Survey AT&T Site LA0468-01, Good News Central Church, 3500 West First Street, Los Angeles, Los Angeles County, CA*	2011
11734	Bonner, Wayne	*Cultural Resources Records Search and Site Visit Results for Sprint Nextel Candidate LA73XC209 (7th Shatto), 760 South Westmoreland Street, Los Angeles, Los Angeles County, California*	2012
11785	Rogers, Leslie	*Final Environmental Impact Statement/Final Environmental Impact Report for the Westside Subway Extension*	2012
11942	Bonner, Wayne	*Cultural Resources Records Search and Visit Results for T-Mobile West, LLC Candidate SV00239A (LA239 Equality Building) 621 South Virgil Avenue, Los Angeles, Los Angeles County, California*	2012
11943	Bonner, Wayne	*Cultural Resource Records Search and Site Visit Results for T-Mobile West, LLC Candidate SV11566A (Beverly Storage) 3636 Beverly Boulevard, Los Angeles, Los Angeles County, California*	2012
11947	Bonner, Wayne	*Cultural Resources Records Search and Site Visit Results for Sprint Nextel Candidate LA70XC463 (U-Lock Storage-CA8290 Irolo), 761 South Normandie Avenue, Los Angeles, Los Angeles County, California*	2012
12013	Bonner, Wayne	*Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate SV11761A (11761 CA Trinity University) 2333 Beverly Boulevard, Los Angeles, Los Angeles County, California*	2012

SCCIC# (LA-)	Author	Title	Year
12050	Bonner, Wayne	*Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate LA03613F (SC613 Kingsley), 901 South Kingsley Drive, Los Angeles, Los Angeles County, California*	2012
12170	Bonner, Wayne and Kathleen Crawford	*Cultural Resources Records Search and Site Visit Results for T0Mobile West, LLC Candidate SV00201A(SM Mayan Bldg.) 3049 West 8th Street, Los Angeles, Los Angeles County, California*	2012
12176	Bonner, Wayne and Kathleen Crawford	*Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate Sv00198A (SM198 Beverly View Apartments) 302 North Alexandria Avenue, Los Angeles, Los Angeles County, California*	2012
12395	Bonner, Wayne and Kathleen Crawford	*Cultural Records Search and Site Visit Results for AT&T Mobility, LLC, Candidate EL0083 (738 Mariposa Apt), 738 South Mariposa Avenue, Los Angeles, Los Angeles County, California, CASPR No.3551015805*	2013
12746	Bonner, Wayne and Kathleen Crawford	*Cultural Resources Records Search and Site Visit Results for T Mobile West, LLC Candidate LA03269B (Sixth Street Storage) 2500 West 6th Street, Los Angeles, Los Angeles County, California*	2013
12747	Bonner, Wayne and Kathleen Crawford	*Cultural Resources Records Search and Site Visit Results for T Mobile West, LLC Candidate LA03067C (Mirae Bank Building) 2140 West Olympic Boulevard, Los Angeles, Los Angeles County, California*	2013
12791	Tang, Tom and Michael Hogan	*Final Report on Archaeological Monitoring of Earth-Moving Activities, University High School Gymnasium/Locker Facility, Seismic Mitigation Increment 2, and Related Sitework City of Los Angeles, Los Angeles County, California*	2013
13079	Bonner, Wayne H. and Kathleen A. Crawford	*Cultural Resources Records Search and Site Visit Results for T Mobile West, LLC Candidate SV00143A (SM099 U-Lock Storage), 761 South Normandie Avenue, Los Angeles, Los Angeles County, California*	2013
13139	Bonner, Wayne H. and Kathleen A. Crawford	*Cultural Resources Records Search and Site Visit Results for T Mobile West, LLC Candidate SVU5631 (Hobart & 3nLRT), 300 South Hobart Boulevard, Los Angeles, Los Angeles County, California*	2013
13139	Bonner, Wayne H. and Kathleen A. Crawford	*Direct APE Historic Architectural Assessment for T-Mobile Candidate SV115631 (Hobart and 3rd), 300 South Hobart Boulevard, Los Angeles, Los Angeles County, California*	2008

Previously Recorded Cultural Resources

The records search results indicate that one historic-period archaeological resource (P-19-003301) has been previously recorded within a 1-mile radius and within close proximity to the Project Site. No archaeological resources have been previously documented within the Project Site. A detailed description of resource P-19-003301 is provided below.

P-19-003301

Resource P-19-003301 is comprised of a refuse deposit (one amber glass bottle, one amber bottle base, a green glass shard, and building materials, such as tile, fire brick, and cement) discovered during construction monitoring (Turner, 2003). Information on the site form indicates that grading activity destroyed a portion of resource P-19-003301, as well as some artifacts found within it. Resource P-19-003301 is located approximately 110 feet southwest of the Project Site.

Sacred Lands File Search

The NAHC maintains a confidential Sacred Lands File (SLF) which contains sites of traditional, cultural, or religious value to the Native American community. The NAHC was contacted on April 20, 2018 to request a search of the SLF. The NAHC responded to the request in a letter dated April 23, 2018. The letter states that the SLF search yielded negative results and indicated that “the absence of specific site information…does not indicate the absence of Native American cultural resources” within a Project Site (Totton, 2018) (**Appendix B**).

Historic Maps, Phase I ESA, and HRE Reports Review

Historic maps and other information found in the Phase I ESA and the HRE were examined to provide historical information about the Project Site and to contribute to an assessment of the Project Site’s archaeological sensitivity. Available maps include the following: 1894 and 1900 Los Angeles, 15-minute topographic quadrangles; 1896, 1898, and 1902 Santa Monica 15-minute topographic quadrangles; and the 1907, 1921, 1950, 1954, 1955, 1968, and 1970 Sanborn Fire Insurance Maps.

Review of the 1894, 1896, 1898, 1900 and 1902 historic topographic maps indicate that the Project Site was undeveloped during these years. One stream is depicted as located in close proximity to the eastern portion of the Project Site (approximately 0.15 miles away), while another one is shown as located approximately 0.15 miles west of the Project Site. West Lake (currently known as MacArthur Park Lake) is also depicted as located approximately 0.65 miles southeast of the Project Site (HMC, 2017).

Review of the 1907 Sanborn map indicates that the Project Site was undeveloped at this time. The 1921 Sanborn map shows that two dwellings with detached garages are located within the northern portion of the Project Site. The 1950 Sanborn map depicts two dwellings (in the northern portion of the Project Site and originally shown in the 1921 Sanborn map) and the First English Lutheran Church within the southern portion of the Project Site. The 1954 Sanborn map depicts the Project Site as it was depicted in 1950. However, by 1954, a long rectangular building labeled “Class Rms” is also exhibited in the northeast portion of the Project Site. The 1955 and 1968 Sanborn maps depict the Project Site as it was depicted in the 1954 Sanborn map. The 1968 and 1970 Sanborn maps show that the two dwellings no longer exist within the Project Site. However, the church building is still in place. The long rectangular building (“Class Rms”) is labeled “Elementary School Class Rms” on the 1968 and 1970 Sanborn maps (HMC, 2017).

Review of the Phase I ESA indicates that the Project Site is currently occupied by the New Covenant Academy, a private Christian school K-12, which consists of a chapel and school buildings. The chapel building has a partial basement that is used for restrooms and a storage area. The Project Site was also previously occupied by several churches (including the First English Lutheran Church, the First Bible Church of Los Angeles, New Life Mission Church, and the First Lutheran Church of Los Angeles) from 1942 until present (HMC, 2017).

According to a review of the HRE report, the existing church building (with a Spanish Colonial Revival architectural style) was constructed in 1936 for the First English Lutheran Church. The

HRE report specifies that the dwellings (depicted in the 1950 Sanborn map) were used by the church as "a parish house and parsonage" (Historic Resources Group, 2018:5). The rectangular building depicted in the 1954 Sanborn map as "Class Rms" was constructed in 1953. Then, between 1954 and 1964, the parish house and parsonage were demolished for the construction of a surface parking lot. In 1964, a two-story school building was constructed immediately north of the 1953 school building. In 2004, restrooms facilities within the Project Site were demolished and replaced with two 2-story buildings and storage buildings (Historic Resources Group, 2018).

Geoarchaeological Review

A desktop geoarchaeological review was conducted by Chris Lockwood, Ph.D., RPA, on July 27, 2018. The purpose of the review was to characterize the geology of the Project Site and assess the potential for the presence of subsurface archaeological resources in the Project Site. The review included a review of historic and geologic maps, geological literature, and archival research through the Natural Resources Conservation Service (NRCS). The following section presents the results of Dr. Lockwood's analysis.

Geology and Geomorphology

The Project Site is located in the Los Angeles Basin, a structural depression approximately 50 miles long and 20 miles wide in the northernmost Peninsular Ranges Geomorphic Province (Ingersoll and Rumelhart, 1999). The Los Angeles basin developed as a result of tectonic forces and the San Andreas fault zone, with subsidence occurring 18 to 3 million years ago (Mya) (Critelli et al., 1995). While sediments dating back to the Cretaceous (66 million years ago) are preserved in the basin, continuous sedimentation began in the middle Miocene (around 13 million years ago) (Yerkes et al., 1965). Since that time, sediments have been eroded into the basin from the surrounding highlands, resulting in thousands of feet of accumulation (Yerkes et al., 1965). Most of these sediments are marine, until sea level dropped in the Pleistocene and deposition of the alluvial sediments that compose the uppermost units in the Los Angeles Basin began.

Geological mapping by Dibblee and Ehrenspeck (1991) indicates that the surficial geology of the Project Site is Older Quaternary Alluvium consisting of alluvial clay, sand, and gravel deposited as alluvial fan sediments derived from the Verdugo Mountains and deposited during the late Pleistocene (around 140,000 to 11,700 years ago) (Dibblee and Ehrenspeck, 1991; see also Campbell et al., 2014).

Prior to urban development and the channeling of the Los Angeles River, the Project Site was likely comprised of woodlands and grasslands, with marshes in low-lying areas. Review of the 1894, 1896, 1898, 1900, 1902, 1904, 1906, 1908, 1910, 1913, and 1915 historic topographic maps indicate that the Project Site was naturally situated between two north-south flowing streams; however, the streams are absent on the 1921 topographic map. Because the Project Site is situated on a topographic rise above the two former stream channels, it is unlikely that the Project Site received significant alluviation during the Holocene epoch. Development of the Project Site began around 1921 and today almost the entirety of the site is covered by buildings or paved surfaces.

Two geotechnical borings provide additional information regarding on-site stratigraphic conditions (Geotechnologies, Inc., 2017 and 2018). The uppermost sedimentary layer at the Project Site consists of dark brown to slight gray, slightly moist, stiff or dense silty and sandy silt with gravel extending to a depth of 5 feet below surface. The fill sits directly over interlayered mixtures of brown to gray, moist to very moist, and very dense to stiff sand, silt and clay interpreted as Old Alluvium (i.e., Late Pleistocene). The Old Alluvium extends to depths in excess of 30 feet, where it overlies orange brown to dark brown and grayish brown, clayey siltstone, silty claystone, and siltstone of the Miocene-aged Puente Formation. . In 2019, due to changes in the project description including the redesign from a 20 story tower to a 31 story tower and an additional level of subterranean parking for a total of four levels. Finally, the existing church repurposing was added to the project description as well. For the 2019 study two borings were drilled down to a depth of 110 feet and 30 below the existing site grade. Three test pits were also hand excavated. The levels of fill in the new borings is consistent with the 2017 and 2018 studies with a maximum depth of five feet. Old Alluvium was also recorded to 32.5 to 34 feet in depth. Finally, the bedrock encountered to the maximum depth of the borings was the Puente Formation, again consistent with the previous studies.

Soils

Mapped soils for the Project Site consist of Urban land-Montebello complex (NRCS, 2018). A soil complex is present when two or more different soil types are mixed geographically such that the scale of the map makes it undesirable, or impractical, to show each one separately. The Urban land designation reflects a high degree of urbanization and development, which tends to obscure natural soil or pedological characteristics, and imparts anthropogenic or artificial soil characteristics. Urban land is recognized by human disturbances to natural soil characteristics resulting from development such as grading and filling. The Montebello silt loam soils consists of very deep, well drained soils formed in human transported parent material on graded alluvial fans that originate from granitic sources (NRCS, 2017). The typical pedon of Montebello soils consists of:

- A-horizon (0-9 cm): grayish brown silt loam (placed sediment)
- C-horizon (9-87 cm): dark brown clay loam (placed sediment)
- 2Bt1-horizon (87 to 135 cm): clay loam (alluvium)
- 2Bt2-horizon (135 to 200 cm): clay loam (alluvium)

Of significance is the absence of the natural, historic A-horizon (2A) at the top of the 2Bt1-horizon, a result of grading prior to placement of fill. It is the natural A-horizon that would have represented a relatively stable ground surface from the Late Pleistocene through the Holocene, and which would have had the greatest sensitivity for prehistoric cultural resources. If soil conditions within the Project Site are consistent with the typical Montebello pedon, the absence of the 2A-horizon suggests that much sensitivity for intact archaeological sites has likely been lost due to grading and removal of the historic ground surface.

Archaeological Sensitivity

Based on geological and soils maps, and two on-site geotechnical borings, the Project Site is assumed to contain historic and recent anthropogenic fill resting unconformably on truncated Late Pleistocene alluvial fan deposits. These conditions suggest that the Project Site likely lacks deposits dating to the latest Pleistocene and Holocene (11,700 years ago to present) – the period for which there is widely accepted evidence for people in Southern California – and therefore has lower sensitivity for subsurface prehistoric cultural resources. The Project Site contains approximately 5 feet of fill placed in the historic period. The fill is considered sensitive for subsurface historic-period cultural resources.

Archaeological Resources Survey

Methods and Results

An archaeological resources survey of the Project Site was conducted on May 8, 2018 by ESA staff Henry Chodsky, B.A. The survey was aimed at identifying surface evidence of archaeological resources within the Project Site. Approximately 15 percent of the Project Site was subject to an opportunistic survey that targeted areas with exposed ground surface, such as planter box areas and the church's garden areas (**Figures 4** through **5**). Approximately 75 percent of the Project Site was not surveyed since the ground surface is covered with a surface parking lot and buildings (**Figure 6)**. The survey did not yield the identification of archaeological resources or other indicators of cultural resources, such as midden soils.

550 Shatto Place Project/ D170958.00

SOURCE: ESA, 2018

Figure 4
View of planter box along west portion of the Project Site, View to South

SOURCE: ESA, 2018

550 Shatto Place Project/ D170958.00

Figure 5
Overview of church garden entry within the Project Site, View to South

SOURCE: ESA, 2018

550 Shatto Place Project/ D170958.00

Figure 6
Overview of parking lot within Project Site, View to Southeast

Conclusions and Recommendations

Conclusions

Known Resources

No known archaeological resources were identified within the Project Site as a result of this assessment; however, one historic-period archaeological resource (P-19-003301), consisting of a refuse deposit, has been recorded approximately 110 feet southwest of the Project Site, but would not be impacted by the Project. Therefore, the Project would not impact any known archaeological resources.

Unknown Resources

The geoarchaeological review indicates that the Project Site has a low sensitivity for encountering prehistoric archaeological resources since there is a lack of deposits dating to the latest Pleistocene and Holocene, the period for which there is widely accepted evidence for people in Southern California. Nevertheless, the Project Site contains approximately 5 feet of fill placed in the historic period, which is considered sensitive for historic-period archaeological resources.

Historic-period archaeological resources, should they exist within the Project Site, could be related to the previous land uses (associated with historic residences). Therefore, it is possible that foundations of structures, building materials, and trash scatters could be found. These trash scatters could yield domestic refuse (such as serving ware, cook ware, and discarded food remains); and personal items (including buttons; medicine, perfume, liquor, and household bottles; and toys). Since Project-related excavation is expected to extend to 65 feet below existing surface, it could encounter historic-period archaeological resources within the upper 5 feet. If the Project encountered subsurface historic-period archaeological resources that qualify as historical or unique archaeological resources under CEQA, it could result in a potentially significant impact to archaeological resources.

Recommendations

Based on the results of this assessment, there is a low likelihood for encountering buried prehistoric archaeological resources. However, there is a moderate to high potential for encountering buried historic-period archaeological resources. Based on these results, **Mitigation Measures MM-CULT-1** through **MM-CULT-3** are recommended to ensure that potentially significant impacts to archaeological resources are reduced to a less than significant level under CEQA.

- **Mitigation Measure CULT-1:** Prior to the issuance of a demolition permit, the Applicant shall retain a qualified Archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards (qualified Archaeologist) to oversee an archaeological monitor who shall be present during construction activities on the Project Site such as demolition, clearing/grubbing, grading, trenching, or any other construction excavation activity associated with the Project. The activities to be monitored shall also include off-site improvements in the vicinity of the Project Site that involve ground disturbance, such as utility, sidewalk, or road improvements which would encounter soils that could potentially contain archaeological resources down to a depth of 5-feet The monitor shall have the authority to direct the pace of construction equipment in areas of higher sensitivity. The frequency of monitoring shall be based on the rate of excavation and grading activities, the materials being excavated (younger sediments vs. older sediments), and the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Full-time monitoring may be reduced to part-time inspections, or ceased entirely, if determined adequate by the qualified Archaeologist. Prior to commencement of excavation activities, an Archaeological Sensitivity Training shall be given for construction personnel. The training session, shall be carried out by the qualified Archaeologist, will focus on how to identify archaeological resources that may be encountered during earthmoving activities, and the procedures to be followed in such an event.

- **Mitigation Measure CULT-2:** In the event that historic (e.g., bottles, foundations, refuse dumps/privies, railroads, etc.) or prehistoric (e.g., hearths, burials, stone tools, shell and faunal bone remains, etc.) archaeological resources are unearthed, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A 25-foot buffer shall be established by the qualified Archaeologist around the find where construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. All archaeological resources unearthed by Project construction activities shall be evaluated by the qualified Archaeologist. If a resource is determined by the qualified Archaeologist to constitute a “historical resource” pursuant to CEQA Guidelines Section 15064.5(a) or a “unique archaeological resource” pursuant to Public Resources Code Section 21083.2(g), the qualified Archaeologist shall coordinate with the Applicant and the City to develop a formal treatment plan that would serve to reduce impacts to the resources. If any prehistoric archaeological sites are encountered within the project area, consultation with interested Native American parties will be conducted to apprise them of any such findings and solicit any comments they may have regarding appropriate treatment and disposition of the resources. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment under CEQA. If in coordination with the City, it is determined that preservation in place is not feasible, appropriate treatment of the resource shall be developed by the qualified Archaeologist in coordination with the City and may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Any archaeological material collected shall be curated at a public, non-profit institution with a research interest in the materials, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be donated to a local school or historical society in the area for educational purposes.

- **Mitigation Measure CULT-3:** Prior to the release of the grading bond, the qualified Archaeologist shall prepare a final report and appropriate California Department of Parks and Recreation Site Forms at the conclusion of archaeological monitoring. The report shall include a description of resources unearthed, if any, treatment of the resources, results of the artifact processing, analysis, and research, and evaluation of the resources with respect to the California Register of Historical Resources and CEQA. The report and the Site Forms shall be submitted by the Project applicant to the City, the South Central Coastal Information Center, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the development and required mitigation measures.

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Appendix A
Personnel

Monica Strauss, RPA

Director, Southern California Cultural Resources Group

EDUCATION

M.A., Archaeology, California State University, Northridge

B.A., Anthropology, California State University, Northridge

AA, Humanities, Los Angeles Pierce College

20 YEARS EXPERIENCE

SPECIALIZED EXPERIENCE

Treatment of Historic and Prehistoric Human Remains

Archaeological Monitoring

Complex Shell Midden Sites

Groundstone Analysis

PROFESSIONAL AFFILIATIONS

Register of Professional Archaeologists (RPA), #12805

Society for California Archaeology (SCA)

Society for American Archaeology (SAA)

QUALIFICATIONS

Exceeds Secretary of Interior Standards

CA State BLM Permitted

Monica has successfully completed dozens of cultural resources projects throughout California and the greater southwest, where she assists clients in navigating cultural resources compliance issues in the context of CEQA, NEPA, and Section 106. Monica has extensive experience with archaeological resources, historic buildings and infrastructure, landscapes, and Tribal resources, including Traditional Cultural Properties. Monica manages a staff of cultural resources specialists throughout the region who conduct Phase 1 archaeological/paleontological and historic architectural surveys, construction monitoring, Native American consultation, archaeological testing and treatment, historic resource significance evaluations, and large-scale data recovery programs. She maintains excellent relationships with agency staff and Tribal representatives. Additionally, Monica manages a general compliance monitoring team who support clients and agencies in ensuring the daily in-field compliance of overall project mitigation measures.

Relevant Experience

Orange County, Saddle Crest Homes Project EIR, Orange County, CA. Cultural Resources *Project Director.* The Saddle Crest project includes the development of 65 residential homes on an approximately 113.7-acre site. Monica managed the preparation of a Cultural Resources EIR section as well as a Phase 1 archaeological resources assessment. As part of the Phase 1 archaeological resources assessment, a literature review, a pedestrian survey, and Native American outreach were undertaken to meet CEQA compliance requirements.

Irvine Ranch Water District, Baker Treatment Plant, Orange County, CA. *Cultural Resources Principal Investigator*. ESA was retained by the Irvine Ranch Water District to provide environmental compliance services. In support of an EIR for the upgrade of the IRWD's Baker Treatment Plant near Lake Forest, ESA cultural resources staff conducted a Phase I Cultural Resources Assessment. Monica directed the archival research, a series of pedestrian surveys, and oversaw the preparation of Phase I Cultural resources Technical reports and the cultural resources section of the EIR.

Topock Compressor Station Remediation CEQA Services. Mohave County, AZ and San Bernardino County, CA. *Cultural Resources Project Director*. Monica is overseeing the preparation of cultural resources EIR sections and is providing project support to the California Department of Toxic Substances Control (DTSC), including facilitating Native American involvement. DTSC provides oversight of the site investigation and cleanup activities for the Pacific Gas and Electric Company (PG&E) Topock Gas Compressor Station, located in San Bernardino County, 15 miles southeast of Needles, California. Groundwater samples taken under and near the Station were found to be contaminated with hexavalent chromium and other chemicals as result of past disposal activities. Soils contamination is also present at the site, requiring investigation and cleanup. These activities are highly scrutinized by the regional Native American Tribes because the area has important cultural and religious significance. ESA is currently preparing an EIR for soil investigations and will be conducting CEQA evaluations that tier off of the Program EIR for the Groundwater Remedy. Additional project-specific EIRs may be required for the final remedy, which is currently undergoing engineering design. ESA will provide these services as well as lead the Native American and public participation efforts.

Los Angeles Department of Water and Power, Path 46 Clearance Surveys, San Bernardino, CA. *Project Director.* ESA has been tasked by Los Angeles Department of Water and Power (LADWP) to conduct required surveys for the Path 46 Transmission Line Clearances Project. The project's objective is to restore required code clearances to the transmission conductors, which will be accomplished by grading the ground surface underneath the transmission lines to achieve required height consistency. The work is being conducted in compliance with BLM guidelines and federal laws and statutes. Biological, archaeological, and paleontological resource surveys are currently being conducted for the 77 proposed grading areas, staging areas, and roads. Reports will be written documenting the results of the surveys and providing recommendations on the areas for access, staging areas, and soil distribution that would have the least amount of impacts on natural resources. Monica is providing support to LADWP in their coordination with the BLM, including providing oversight of map preparation, field surveys, and preparation of pre-field research designs and post-field technical reports.

Ballona Wetlands Restoration EIR, Los Angeles County, CA. *Cultural Resources Project Director.* As part of the development of the restoration plan for the Ballona Wetlands, the ESA project team characterized existing conditions that included water and sediment sampling and analysis. The water and sediment quality sampling was performed to develop and evaluate potential restoration alternatives, and to develop a conceptual plan. The ESA project team compiled existing data on and conducted additional sampling for water and sediment to assess potential effects on the proposed wetland restoration habitat from the use of urban runoff and tidal in-flow from Ballona Creek. These data were used to complete a baseline report and restoration alternatives assessment. Monica is assisting the CSCC in fulfilling Army Corps of Engineers requirements under Section 106 of the National Historic Preservation Act. In addition, she is coordinating with Tribal members and is overseeing a team of resource specialists who are compiling cultural resources technical in preparation of the EIR's Cultural Resources section.

Los Angeles Department of Water and Power La Kretz Innovation Campus, Los Angeles County, CA. *Project Director.* The project involved the rehabilitation of the 61,000-square-foot building located at 518-524 Colyton Street, demolition of the building located at 537-551 Hewitt Street, and construction of an open space public plaza and surface parking lot, and involved compliance with Section 106 of the National Historic Preservation Act and consultation with the California State Historic Preservation Officer. ESA is providing archaeological monitoring and data recovery services and is assisting LADWP with meeting their requirements for Section 106 of the National Historic Preservation Act. Monica is providing oversight to archaeological monitors and crew conducting resource data recovery and laboratory analysis, and is providing guidance to LADWP on meeting Section 106 requirements.

Los Angeles Department of Water and Power Lone Pine Landfill Paleontological Resources Recovery, Inyo County, CA. *Cultural Resources Project Director.* At the request of LADWP, ESA responded to a discovery of large mammal bone at the Lone Pine Landfill in an area where borrow materials were being excavated.

ESA conducted geologic map research and recovered what was identified as a mammoth tusk. The tusk was stabilized, prepared for curation, and transported to a storage facility. Monica provided senior oversight of the paleontological resources recovery team and conducted paleontological resources sensitivity training and guidance to landfill staff in the event additional material are encountered.

City of Los Angeles Recreation and Parks, Hansen Dam Skate Park Project, Los Angeles County, CA. *Cultural Resources Principal Investigator*. ESA prepared a joint EA and IS/MND for the Los Angeles Department of Recreation and Parks in coordination with the U.S. Army Corps of Engineers (Corps) for a proposed skate park facility within the Hansen Dam Recreation Area. Monica managed a Phase I Cultural resources Study, coordinated with the Army Corps of Engineers and provided senior review for the EA/IS/MND cultural resources section.

Los Angeles Unified School District, Central Los Angeles High School #9. Los Angeles, CA. *Project Director.* ESA contributed to Data Recovery Report sections for Los Angeles Unified School District's Central High School #9, constructed in downtown Los Angeles. Between 2004 and 2009, Monica led a team of archaeological staff of ten who conducted archaeological monitoring and data recovery of archaeological materials in connection with the 19th century Los Angeles City Cemetery. She coordinated with the Los Angeles County Coroner and office of Vital Statistics to obtain disinterment permits and developed a mitigation plan incorporating components related to the future disposition of remains, artifact curation, and commemoration. She directed an extensive historical research effort to identify the human remains, and at the request of the client, participated in public outreach and coordination with media.

Bureau of Land Management, On-Call Cultural Resources Services, Riverside County, CA. *Project Manager.* ESA has been retained by the Bureau of Land Management under an on-call contract to provide cultural resource services including compliance monitoring for projects under Bureau of Land Management (BLM) jurisdiction. Monica managed a number of projects for the BLM (Palm Springs South Coast Field Office) providing a wide range of cultural resources services for solar projects and other projects taking place on BLM lands in compliance with Section 106 and specified BLM protocols. Services that she and her staff provide under this contract include compliance monitoring and peer review, Phase I archaeological resources surveys, resource evaluations, the preparation of reports, and Native American consultation. Projects completed under this contract include Dos Palmas Phase I Survey and Archaeological Monitoring, National Monument Phase I Survey, Windy Pointe Archaeological Monitoring, and Fast and the Furious Phase I Survey.

Sara Dietler

Archaeologist

EDUCATION

B.A., Anthropology, San Diego State University

19 YEARS EXPERIENCE

CERTIFICATIONS/ REGISTRATION

California BLM Permit, Principal Investigator, Statewide

Nevada BLM Permit, Paleontology, Field Agent, Statewide

PROFESSIONAL AFFILIATIONS

Society for American Archaeology (SAA)

Society for California Archaeology (SCA)

Sara is a senior archaeology and paleontology lead with 20 years of experience in cultural resources management in Southern California. As a senior project manager, she manages technical studies including archaeological and paleontological assessments and surveys, as well as monitoring and fossil salvage for many clients, including public agencies and private developers. She is a cross-trained paleontological monitor and supervisor, familiar with regulations and guidelines implementing the National Historic Preservation Act (NHPA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and the Society of Vertebrate Paleontology guidelines. She has extensive experience providing oversight for long-term monitoring projects throughout the Los Angeles Basin for archaeological, Native American, and paleontological monitoring compliance projects and provides streamlined management for these disciplines.

Relevant Experience

Los Angeles Unified School District (LAUSD) Central Los Angeles High School #9; Los Angeles, CA. *Senior Project Archaeologist & Project Manager*. Sara conducted on-site monitoring and investigation of archaeological sites exposed as a result of construction activities. During the data recovery phase in connection with a 19th century cemetery located on-site, she participated in locating of features, feature excavation, mapping, and client coordination. She organized background research on the cemetery, including genealogical, local libraries, city and county archives, other local cemetery records, internet, and local fraternal organizations. Sara advised on the lab methodology and setup and served as project manager. Sara was a contributing author and editor for the published monograph, which was published as part of a technical series, “Not Dead but Gone Before: The Archaeology of Los Angeles City Cemetery.”

Downtown Cesar Chavez Median Project, City of Los Angeles, CA. *Project Manager*. Sara assisted the City of Los Angeles Department of Public Works Bureau of Engineering with a Local Assistance Project requiring consultations with Caltrans cultural resources. Responsible for Caltrans coordination, serving as contributing author and report manager for required ASR, HPSR, and HRER prepared for the project.

Elysian/USC Water Recycling Project Initial Study/Environmental Assessment, Los Angeles, CA. *Project Manager.* Sara worked on the Initial Study/Mitigated Negative Declaration and an Environmental Assessment/Finding of No Significant Impact to construct recycled water pipelines for irrigation and other industrial uses serving Los Angeles Department of Water and Power customers in downtown Los Angeles, including Elysian Park. The U.S. Environmental Protection Agency is the federal lead agency.

Fatima Clark

Archaeologist

EDUCATION

B.A., Anthropology, California State University, Fullerton

10 YEARS EXPERIENCE

PROFESSIONAL AFFILIATIONS

Society for California Archaeology

SPECIALIZED TRAINING

Workshop: The Art and Science of Flintknapping, California Desert Studies Center, 2013

Successful CEQA, Compliance-Southern California Edison, Environmental Training, 2011

Cultural Resources Protection under CEQA and Other Legislative Mandates, UCLA Extension, 2010

PROFESSIONAL AFFILIATIONS

Society for California Archaeology

Fatima Clark has 10 years of hands-on archaeological experience and is practiced in project management and client and agency coordination. Her field experience is complimented by the course study and participation in numerous archaeological excavations in California, Arizona, and Peru. Fatima has written California Environmental Quality Act (CEQA)-level technical reports, Environmental Impact Report (EIR) sections, Initial Study sections, archaeological peer reviews, archaeological monitoring reports, and reports pursuant to Caltrans requirements. She is also experienced in performing archaeological testing, site recordation, laboratory analysis, pedestrian surveys, records searches through several California Historical Resources Information Systems-Information Centers, and monitoring for a wide variety of projects, including mixed-use, residential, and energy, water, and road infrastructure projects. In addition to her archaeology background, Fatima has been cross-trained in conducting paleontological surveys and monitoring and has co-authored and managed associated reports.

Representative Experience

Real Estate Development. Fatima has provided a full range of archaeological services to numerous projects throughout Southern California. Her role in these projects have consisted of conducting coordination management between construction personnel managers and archaeological monitors, writing Phase I and monitoring reports, conducting pedestrian surveys, monitoring, and performing records searches and laboratory work of recovered artifacts during monitoring and Phase II archaeological testing. Recent project experience includes the Uptown Newport Village Project in Newport Beach, the Shriners Hospital for Children in Pasadena, the San Juan Medical Office Building in San Juan Capistrano, the Isla Verde Residential Project in Moreno Valley, the Frontier Chino Project, and the 220-acre Aidlin Property Residential Project in the Stevenson Ranch community of unincorporated Los Angeles County.

Infrastructure. Fatima has served a number of clients and lead agencies in the provision of a variety of archaeological services, including municipalities, water agencies, Caltrans, large engineering firms, and energy providers. She served as an in-house consultant to Southern California Edison (SCE) for nearly six years, during which time she worked on a wide variety of environmental compliance projects. Fatima also served as the Project Manager for the I-10 Freeway/Pepper Avenue Interchange Project in Colton, and is currently the La Costa Chevron Drainage Improvements Project in Encinitas. Other projects include the Badlands Landfill stockpile project for Riverside County, the Palos Verdes pipeline project and Crenshaw Reservoir project for the California Water Service Company, and the San Clemente Recycled Water project.

Paleontology. Fatima's experience in paleontological resources has included projects throughout Southern California. Because of her cross-training, she is often called to perform monitoring and surveys on a variety of project types. Her monitoring projects are diverse in nature and include everything from residential to petroleum-related projects. Fatima's paleontology projects include the 7.5 acre Highgrove community library site in Riverside County and the proposed San Clemente Recycled Water Project study areas associated with the installation, transmission, distribution of pipelines, and expansion of facilities at water treatment plants.

Construction Monitoring. Fatima's monitoring projects are diverse in nature and encompass everything from residential to petroleum-related projects. Her archaeological monitoring includes a number of projects for the City of San Juan Capistrano, Burbank Water & Power, as well as work at the Orange County Great Park (on the former El Toro MCAS), with the city of Mission Viejo, for the Cascade Solar Project, the Willow Heights project in Diamond Bar, and various Lennar Homes and John Laing Homes Housing development projects.

Her paleontological monitoring projects include monitoring and fossil salvage at a proposed school site off of Mulholland that dated back to the Miocene era. She also performed construction monitoring for paleontological resources during the grading of three large basins for the installation of storm drains at the Lytle Creek North Water Quality Basin Relocation project site. Additional experience includes monitoring at the Brio Residential Development in La Habra, monitoring for resources in contaminated soils at the Orange County Great Park (Heritage Fields) project site (formerly the El Toro Marine Corps Air Station), and at the Arroyo Grande Oil Field Project in San Luis Obispo, where she also performed sediment sampling.

Appendix B
Sacred Lands File Search

ESA

2121 Alton Parkway
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April 20, 2018

Native American Heritage Commission
1550 Harbor Blvd., Suite 100
Sacramento, CA 95691

Subject: Sacred Lands File Search Request: Proposed 550 Shatto Place Project, City of Los Angeles, Los Angeles County, California.

Dear Native American Heritage Commission Representative:

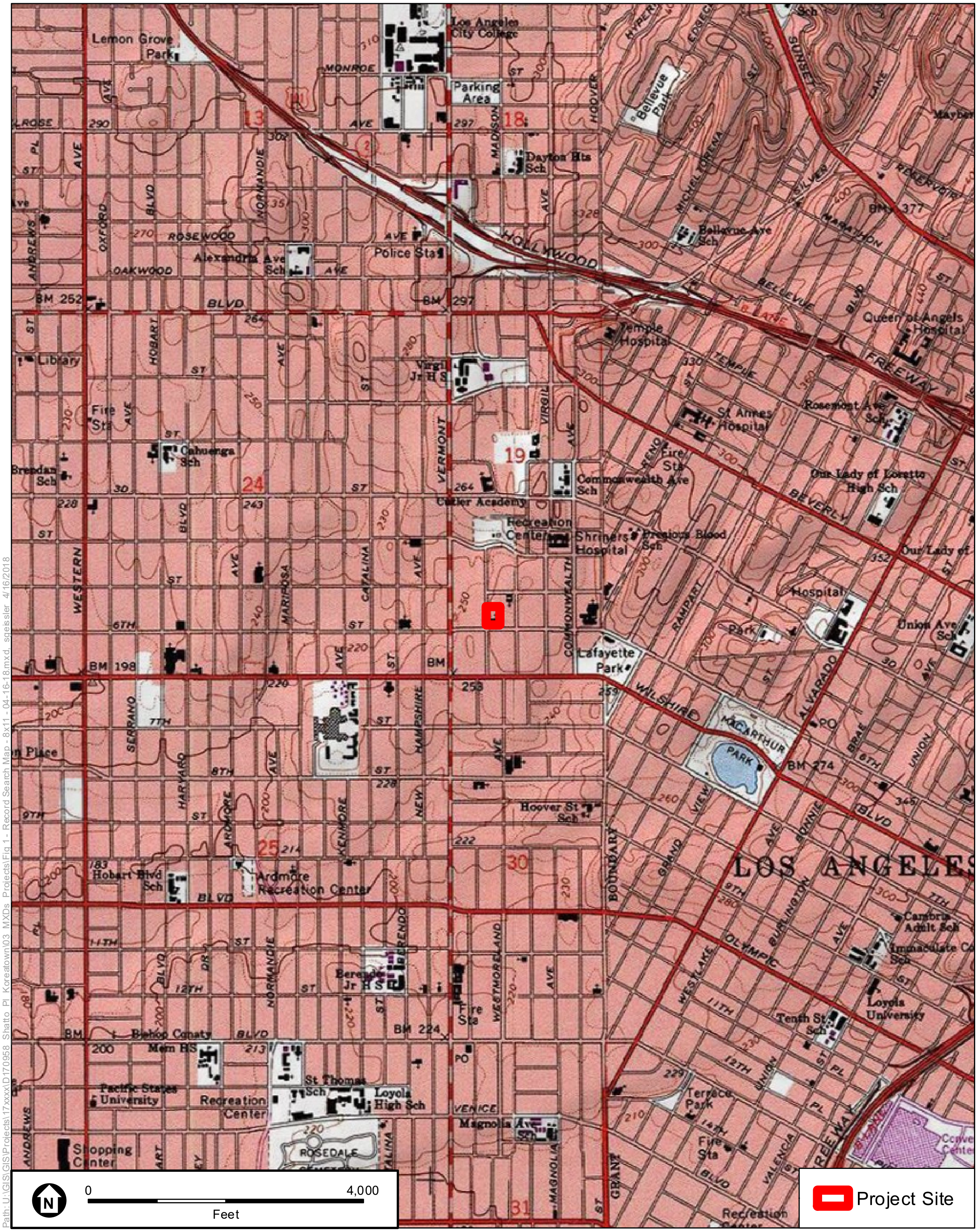
ESA is preparing environmental documentation for the proposed 550 Shatto Place Project ("the Project"). The Project would require the demolition of existing on-site surface parking and school uses to support construction of a mixed-use development with a combination of commercial and residential uses. An existing on-site church would remain.

To ensure that any areas containing previously recorded cultural resources and sacred lands are identified and considered, ESA is requesting a Sacred Lands File search of the Study Area. The Study Area is located in Section 19, Township 1 South, Range 13 West of the Hollywood, CA United States Geological Survey 7.5' topographic quadrangle map (**Figure 1X**, attached).

Thank you for your assistance with our efforts to address possible Native American concerns that may be affected by the proposed project. If you have any questions or need additional information, please contact me at (949) 753-7001 or via email at fclark@esassoc.com.

Sincerely,

Fatima Clark
Archaeologist



Path: U:\GIS\GIS\Projects\17xxx\D170958 Shatto Pl Koreatown\03 MXDs Projects\Fig 1 - Record Search Map - 8x11 - 04-16-18.mxd, sgeissler 4/16/2018

SOURCE: USGS Topographic Series (Hollywood, CA).

Shatto Place Koreatown

Figure 1X
Record Search Map

ESA

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710

April 23, 2018

Fatima Clark
Environmental Science Associates

Sent by E-mail: fclark@esassoc.com

RE: Proposed 550 Shatto Place Project, City of Los Angeles; Los Angeles USGS Quadrangle, Los Angeles County, California

Dear Ms. Clark:

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed for the area of potential project effect (APE) referenced above with negative results. Please note that the absence of specific site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE.

Attached is a list of tribes culturally affiliated to the project area. I suggest you contact all of the listed Tribes. If they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult. If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact via email: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst
(916) 373-3714

Native American Heritage Commission
Native American Contact List
Los Angeles County
4/23/2018

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Tataviam

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Tataviam

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Gabrieleno

Gabrieleno/Tongva San Gabriel Band of Mission Indians
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Kitanemuk
Serrano
Tataviam

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed 550 Shatto Place Project, Los Angeles County.

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550 SHATTO PLACE PROJECT, CITY OF LOS ANGELES, CALIFORNIA

Paleontological Resources Assessment Report

Prepared for
TF Shatto Partnership
11400 W. Olympic Boulevard, Suite 850
Los Angeles, California 90064

December 2018

ESA

Confidential – Not For Public Distribution

550 SHATTO PLACE PROJECT, CITY OF LOS ANGELES, CALIFORNIA

Paleontological Resources Assessment Report

Prepared for:
TF Shatto Partnership
11400 W. Olympic Boulevard, Suite 850
Los Angeles, California 90064

December 2018

Prepared by:
ESA
626 Wilshire Blvd. Suite 1100
Los Angeles, CA 90017

Project Director:
Monica Strauss, M.A., RPA

Project Manager:
Sara Dietler

Paleontological Principal Investigator and Report Author:
Alyssa Bell, Ph.D.

Project Location:
Hollywood (CA) USGS 7.5 minute Topographic Quad; Township 1 South, Range 13 West, Section 19

Acreage: Approx. 1.18 acres

Assessor Parcel Number: 5077-004-033

626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
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EXECUTIVE SUMMARY

550 Shatto Place Project- Paleontological Resources Assessment Report

Environmental Science Associates (ESA) has been retained by TF Shatto Partnership (Applicant) to prepare a Paleontological Resources Assessment Report for the proposed 550 Shatto Place Project (Project) in support of a Sustainable Communities Environmental Assessment (SCEA). The Applicant proposes the construction of an approximately 222,944 square foot mixed-use high-rise building comprising residential units and office uses in the City of Los Angeles (City), California. In addition, the Applicant would repurpose the former First English Evangelical Lutheran Church that contains a school and convert it to commercial uses. The City is the lead agency pursuant to the California Environmental Quality Act (CEQA).

The literature review and geological mapping indicates that the surficial geology of the Project Site consists of Older Quaternary Alluvium with outcrops of marine shale identified alternately as Modelo or Puente formation (Tush) present to the north of the Project Site. Ice Age animals such as mammoths, horse, camel, bison, sabertooth cat, wolf, and others, as well as abundant small animals such as rodents, birds, lizards, and snakes have been found from Pleistocene-aged alluvium throughout Los Angeles. Also, a wide variety of significant fossils, such as cephalopods, crustaceans, fishes, and other marine and terrestrial vertebrates are known from the Modelo/Puente Formation in the region.

A review of the geotechnical investigation report indicates that the Project Site is underlain by fill soil to a depth of 5 feet below ground surface (bgs), Old Alluvium between approximately 5 and 34 feet bgs, and sedimentary bedrock of the Puente Formation between approximately 34 and 67 feet bgs.

A database search for records of fossil localities within the Project was conducted by the Natural History Museum of Los Angeles County (LACM) on April 20, 2018. The database search results indicated that no known localities exist within the Project site; however, a number of vertebrate fossils from Older Quaternary Alluvium and the Modelo/Puente Formation (Tush) deposits are known from similar sedimentary deposits in Los Angeles. Three localities (LACM 3250, 6024, and 5845) from the Older Quaternary Alluvium deposits have been found approximately 1 to 1.3 miles away from the Project Site and these have yielded specimens of mammoth (*Mammuthus*) and mastodon (*Mammutidae*) between 5 feet to 65 feet bgs. Two other localities (LACM 6202 and 6203) from the Modelo/Puente Formation were found approximately 0.15 miles southwest of the Project Site and these have yielded dozens of marine fossils between 60 to 80 feet bgs.

The geologic units within the Project Site were assigned paleontological sensitivity rankings based on the Society for Vertebrate Paleontology guidelines. The fill present within the Project Site has no paleontological sensitivity. Both the Older Quaternary Alluvium (Qae) and Modelo/Puente Formation (Tush) present within the Project Site have high paleontological sensitivity.

No paleontological resources were identified within the Project Site as a result of this assessment. However, the findings of this assessment indicate that any Project-related excavation below 5 feet has the potential to encounter geologic units with high paleontological sensitivity (Pleistocene-age Older Quaternary alluvium and late Miocene-age Modelo or Puente Formation). Older Quaternary alluvium is known to be present within the Project Site at depths of approximately 5 to 30 feet bgs. The Modelo or Puente Formation is known to be present within the Project Site at depths of approximately 30 to 67 feet bgs. Since Project-related excavation is expected to extend to 65 feet below existing surface, it could encounter paleontological resources below 5 feet and result in a potentially significant impact to unique paleontological resources. As such, recommended mitigation measures, including retention of a Qualified Paleontologist, paleontological resources monitoring, and procedures to be followed in the event of the discovery of paleontological resources, are provided in the *Conclusions and Recommendations* section of this report in order to reduce impacts to unique paleontological resources to a less than significant level under CEQA.

INTRODUCTION

Environmental Science Associates (ESA) has been retained by TF Shatto Partnership (Applicant), to prepare a Paleontological Resources Assessment Report for the 550 Shatto Place Project (Project) in support of a Sustainable Communities Environmental Assessment . The Applicant proposes the construction of a mixed-use residential and commercial property in the City of Los Angeles (City). The City is the lead agency pursuant to the California Environmental Quality Act (CEQA).

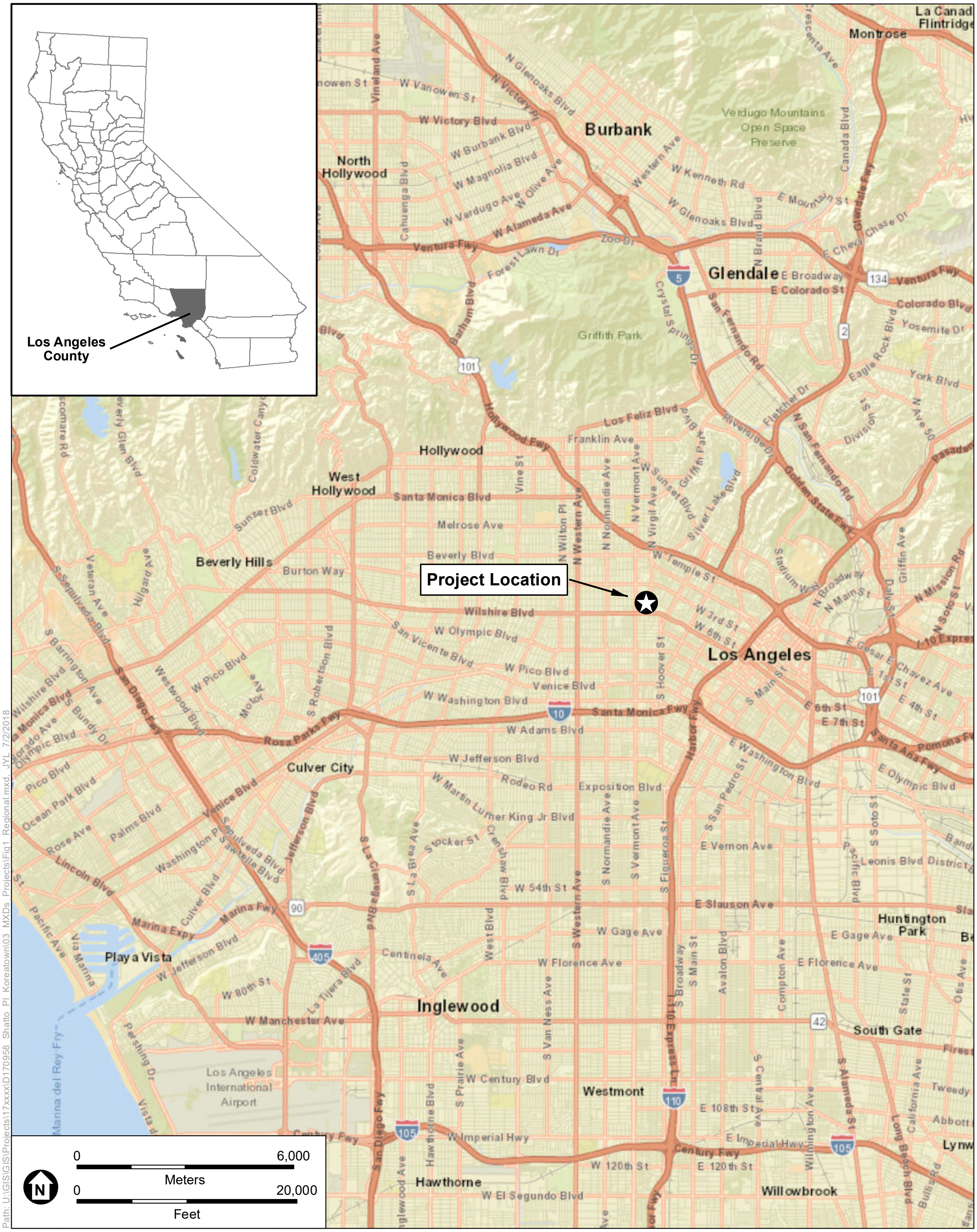
ESA personnel involved in the preparation of this report are as follows: Monica Strauss, M.A., RPA, Project Director; Sara Dietler, B.A., Project Manager; Alyssa Bell, Ph.D., Paleontological Principal Investigator and report author; and Jessie Lee, GIS specialist. Resumes of key personnel are included in **Appendix A**.

Project Location

The 1.18-acre Project Site is situated within the Koreatown neighborhood in the City of Los Angeles (**Figure 1**). The Project is also situated at 522, 530, and 550 S. Shatto Place (also known as 3119 W. 6th Street) and is comprised of three lots (Assessor Parcel Number 5077-004-033). It is bound on the north by office and educational uses, on the south by 6th Street, on the east by commercial and residential uses, and on the west by Shatto Place. Specifically, the Project Site is situated in Section 19 of Township 1 South, Range 13 West on the Hollywood, CA U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map. (**Figure 2**).

Project Description

The Project consists of the construction of an approximately 222,944 square foot mixed-use high-rise building comprising a maximum of 256 residential units [252 apartments and four (4) townhomes], and 2,507 square feet of office uses. In addition, the Applicant would repurpose the former First English Evangelical Lutheran Church that contains a school and convert it to restaurant uses. A total of 329 parking spaces are proposed within four subterranean levels. Office space is proposed below the new townhouse units in front of the new tower and would have a subterranean connection to the repurposed church building.



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SOURCE: ESRI

Shatto Place Koreatown

Figure 1
Regional Location Map

SOURCE: ESRI 2017

Shatto Place Koreatown

Figure 2
Project Location

ESA

The ground floor level of the tower would include four individual (4) office spaces, five (5) parking stalls, a residential lobby area and office. Level 2 would contain outdoor and indoor amenity spaces, along with the proposed townhouses. Residential units are proposed to be located on levels 3 through 27, with penthouse apartments on levels 28 and 29. Levels 30 and 31 would include additional amenity areas, such as a pool. Level 31 would be used for mechanical equipment. Maximum excavation depths related to the construction of the Project is expected to extend 65 feet below existing surface.

REGULATORY FRAMEWORK

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value that are afforded protection under state laws and regulations. The following section summarizes the applicable federal and state laws and regulations, as well as professional standards provided by the Society of Vertebrate Paleontology (SVP).

State

California Environmental Quality Act

The CEQA Guidelines (Title 14, Chapter 3 of the California Code of Regulations, Section 15000 *et seq*.), define the procedures, types of activities, individuals, and public agencies required to comply with CEQA. As part of CEQA's Initial Study process, one of the questions that must be answered by the lead agency relates to paleontological resources: "Will the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" (CEQA Guidelines Section 15023, Appendix G, Section XIV, Part a).

The loss of any identifiable fossil that could yield information important to prehistory, or that embodies the distinctive characteristics of a type of organism, environment, period of time, or geographic region, would be a significant environmental impact. Direct impacts to paleontological resources primarily concern the potential destruction of nonrenewable paleontological resources and the loss of information associated with these resources. This includes the unauthorized collection of fossil remains. If potentially fossiliferous bedrock or surficial sediments are disturbed, the disturbance could result in the destruction of paleontological resources and subsequent loss of information (significant impact). At the project-specific level, direct impacts can be mitigated to a less than significant level through the implementation of paleontological mitigation.

The CEQA threshold of significance for a significant impact to paleontological resources is reached when a project is determined to "directly or indirectly destroy a significant paleontological resource or unique geologic feature." In general, for project sites that are underlain by paleontologically sensitive geologic units, the greater the amount of ground disturbance, the higher the potential for significant impacts to paleontological resources. For project sites that are directly underlain by geologic units with no paleontological sensitivity, there is no potential for impacts on paleontological resources unless sensitive geologic units which underlie the non-sensitive unit are also affected.

Public Resources Code Section 5097.5 and Section 30244

Other state requirements for paleontological resource management are included in Public Resources Code Section 5097.5 and Section 30244. These statutes prohibit the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to paleontological resources from developments on public (state, county, city, district) lands.

Local

City of Los Angeles General Plan

The Conservation Element of the City of Los Angeles General Plan recognizes paleontological resources in Section 3: "Archeological and Paleontological" (II-3), specifically the La Brea Tar Pits, and identifies protection of paleontological resources as an objective (II-5). The General Plan identifies site protection as important, stating:

> *Pursuant to CEQA, if a land development project is within a potentially significant paleontological area, the developer is required to contact a bona fide paleontologist to arrange for assessment of the potential impact and mitigation of potential disruption of or damage to the site. If significant paleontological resources are uncovered during project execution, authorities are to be notified and the designated paleontologist may order excavations stopped, within reasonable time limits, to enable assessment, removal or protection of the resources. (City of Los Angeles, 2001)*

City of Los Angeles CEQA Thresholds of Significance

The City of Los Angeles' CEQA Thresholds of Significance Guide (City of Los Angeles, 2006) Section D:1 specifies that the determination of significance for paleontological resources shall be made on a case-by-case basis, taking into consideration the following factors:

- Whether, or the degree to which, the project might result in the permanent loss of, or loss of access to, a paleontological resource; and
- Whether the paleontological resource is of regional or statewide significance. Professional Standards

Society of Vertebrate Paleontology

The SVP has established standard guidelines (SVP, 1995, 2010) that outline professional protocols and practices for conducting paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional vertebrate paleontologists adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most state regulatory agencies with paleontological resource-specific Laws, Ordinances, Regulations, and Standards (LORS) accept and use the professional standards set forth by the SVP.

As defined by the SVP (1995:26), significant nonrenewable paleontological resources are:

> *Fossils and fossiliferous deposits here restricted to vertebrate fossils and their taphonomic and associated environmental indicators. This definition excludes invertebrate or paleobotanical fossils except when present within a given vertebrate assemblage. Certain invertebrate and plant fossils may be defined as significant by a project paleontologist, local paleontologist, specialists, or special interest groups, or by lead agencies or local governments.*

As defined by the SVP (1995:26), significant fossiliferous deposits are:

> *A rock unit or formation which contains significant nonrenewable paleontologic resources, here defined as comprising one or more identifiable vertebrate fossils, large or small, and any associated invertebrate and plant fossils, traces, and other data that provide taphonomic, taxonomic, phylogenetic, ecologic, and stratigraphic information (ichnites and trace fossils generated by vertebrate animals, e.g., trackways, or nests and middens which provide datable material and climatic information). Paleontologic resources are considered to be older than recorded history and/or older than 5,000 years BP [before present].*

Based on the significance definitions of the SVP (1995), all identifiable vertebrate fossils are considered to have significant scientific value. This position is adhered to because vertebrate fossils are relatively uncommon, and only rarely will a fossil locality yield a statistically significant number of specimens of the same genus. Therefore, every vertebrate fossil found has the potential to provide significant new information on the taxon it represents, its paleoenvironment, and/or its distribution. Furthermore, all geologic units in which vertebrate fossils have previously been found are considered to have high sensitivity. Identifiable plant and invertebrate fossils are considered significant if found in association with vertebrate fossils or if defined as significant by project paleontologists, specialists, or local government agencies.

A geologic unit known to contain significant fossils is considered to be "sensitive" to adverse impacts if there is a high probability that earth-moving or ground-disturbing activities in that rock unit will either directly or indirectly disturb or destroy fossil remains. Paleontological sites indicate that the containing sedimentary rock unit or formation is fossiliferous. The limits of the entire rock formation, both areal and stratigraphic, therefore define the scope of the paleontological potential in each case (SVP, 1995).

Fossils are contained within surficial sediments or bedrock, and are therefore not observable or detectable unless exposed by erosion or human activity. In summary, paleontologists cannot know either the quality or quantity of fossils prior to natural erosion or human-caused exposure. As a result, even in the absence of surface fossils, it is necessary to assess the sensitivity of rock units based on their known potential to produce significant fossils elsewhere within the same geologic unit (both within and outside of the study area), a similar geologic unit, or based on whether the unit in question was deposited in a type of environment that is known to be favorable for fossil preservation. Monitoring by experienced paleontologists greatly increases the probability that fossils will be discovered during ground-disturbing activities and that, if these remains are significant, successful mitigation and salvage efforts may be undertaken in order to prevent adverse impacts to these resources.

Paleontological Sensitivity

Paleontological sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey. In its "Standard Guidelines for the Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontologic Resources," the SVP (1995:23) defines four categories of paleontological sensitivity (potential) for rock units: high, low, undetermined, and no potential:

- **High Potential.** Rock units from which vertebrate or significant invertebrate fossils or suites of plant fossils have been recovered and are considered to have a high potential for containing significant nonrenewable fossiliferous resources. These units include, but are not limited to, sedimentary formations and some volcanic formations that contain significant nonrenewable paleontologic resources anywhere within their geographical extent and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical; and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Also classified as significant are areas that contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways.
- **Low Potential.** Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils. Such units will be poorly represented by specimens in institutional collections.
- **Undetermined Potential.** Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials.
- **No Potential.** Metamorphic and granitic rock units generally do not yield fossils and therefore have no potential to yield significant non-renewable fossiliferous resources.

For geologic units with high potential, full-time monitoring is generally recommended during any project-related ground disturbance. For geologic units with low potential, protection or salvage efforts will not generally be required. For geologic units with undetermined potential, field surveys by a qualified vertebrate paleontologist should be conducted to specifically determine the paleontologic potential of the rock units present within the study area.

Paleontological Resources Significance Criteria

Numerous paleontological studies have developed criteria for the assessment of significance of fossil discoveries (Eisentraut and Cooper, 2002; Murphey and Daitch, 2007). In general, these studies assess fossils as significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life; or
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

Significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer 2003, Scott et al. 2004).

SETTING

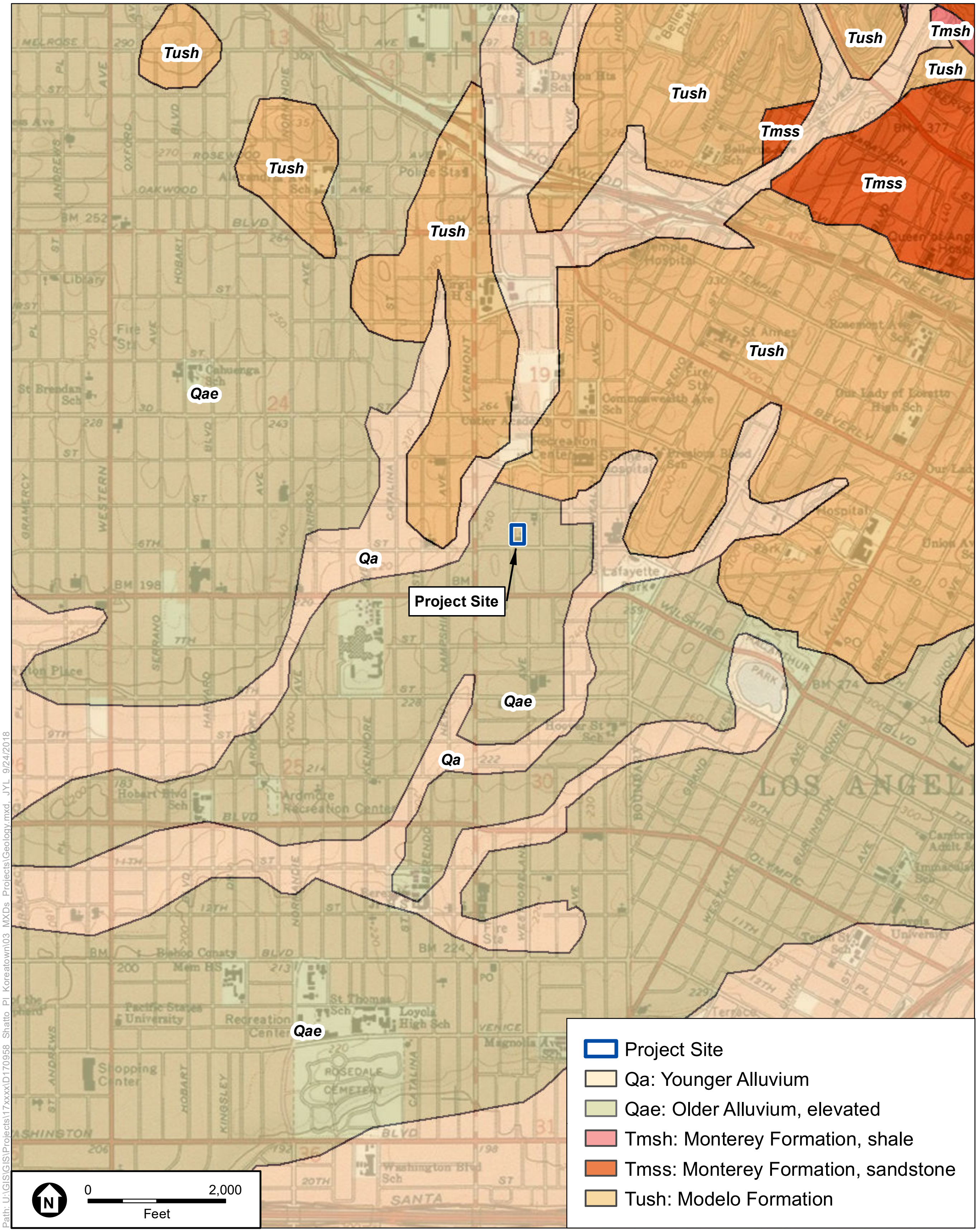
Geological Setting

The Project Site is located in the Los Angeles Basin, a structural depression approximately 50 miles long and 20 miles wide in the northernmost Peninsular Ranges Geomorphic Province (Ingersoll and Rumelhart, 1999). The Los Angeles basin developed as a result of tectonic forces and the San Andreas fault zone, with subsidence occurring 18 – 3 million years ago (Mya) (Critelli et al., 1995). While sediments dating back to the Cretaceous (66 million years ago) are preserved in the basin, continuous sedimentation began in the middle Miocene (around 13 million years ago) (Yerkes et al., 1965). Since that time, sediments have been eroded into the basin from the surrounding highlands, resulting in thousands of feet of accumulation (Yerkes et al., 1965). Most of these sediments are marine, until sea level dropped in the Pleistocene and deposition of the alluvial sediments that compose the uppermost units in the Los Angeles Basin began.

ARCHIVAL RESEARCH

Geological Map and Literature Review

The literature review and geological mapping by Dibblee and Ehrenspeck (1991) indicates that the surficial geology of the Project Site consists of Older Quaternary Alluvium (mapped as Qae in **Figure 3**), with outcrops of marine shale indentified alternately as Modelo or Puente formation (Tush) present to the north of the Project Site. These units and their fossil record are discussed below.



SOURCE: USGS 7.5' Topo Quad Hollywoo.

Shatto Place Koreatown

Figure 3
Geology

ESA

Older Quaternary Alluvium (Qae). These sediments consist of alluvial clay, sand, and gravel deposited as alluvial fan sediments derived from the Verdugo Mountains and deposited during the late Pleistocene (around 140,000 to 11,700 years ago) (Dibblee and Ehrenspeck, 1991). These sediments are of an age to preserve fossil resources (i.e., older than 5,000 years old, as determined by the SVP [2010]), and are well known for preserving significant fossils throughout the Los Angeles Basin (Jefferson, 1991a, 1991b). Iconic Ice Age animals such as mammoths, horse, camel, bison, sabertooth cat, wolf, and others, as well as abundant small animals such as rodents, birds, lizards, and snakes have been found from Pleistocene-aged alluvium throughout Los Angeles (e.g. Brattstrom and Sturn, 1959; Graham and Lundelius, 1994; Steadman, 1980). In addition to illuminating the striking differences between Southern California in the Pleistocene and today, this abundant fossil record has been vital in studies of extinction (e.g. Sandom, et al., 2014; Scott, 2010), ecology (e.g. Connin et al., 1998), and climate change (e.g. Roy et al., 1996).

Modelo/Puente Formation (Tush). The unnamed shale present at the surface to the north of the Project Site has been alternately assigned to the Puente Formation or to the Modelo Formation (Dibblee and Ehrenspeck, 1991). These sediments consist of thin-bedded silty clay shale with laminae of fine-grained, soft sandstone (Dibblee and Ehrenspeck, 1991). Due to the proximity of these outcrops (as little as 0.2 miles to the northeast of the project site), it is likely this unit is present in the subsurface of the Project Site at an undetermined depth. The Modelo/Puente dates to the late Miocene (approximately 5 to 11 million years ago) and records sediment filling during the marine phase of the Los Angeles Basin. A wide variety of significant fossils, such as cephalopods (Saul and Stadum, 2005), crustaceans (Feldmann, 2003), fishes (Carnevale et al., 2008; Huddleston and Takeuchi, 2006), and other marine and terrestrial vertebrates (Barboza et al., 2017; Leatham and North, 2017) are known from this unit in the region.

Review of Geotechnical Investigation

A review of the geotechnical investigation report (Geotechnologies, Inc., 2017 and 2018) indicates that the Project Site is located within the City of Los Angeles Oil Field; however, no oil wells have been previously drilled at the Project Site. As part of the investigation, two borings were drilled within the northern portion of the Project Site, both reaching depths of 67 feet bgs. The boring data indicates that the Project Site is underlain by fill soil (silty sand and sandy silt) to a depth of 5 feet. Old Alluvium was encountered beneath the fill to depths between 32.5 and 34 feet bgs. Sedimentary bedrock of the Puente Formation was encountered beneath the old Alluvium to the terminal depths of the borings. In 2019, due to changes in the project description including the redesign from a 20 story tower to a 31 story tower and an additional level of subterranean parking for a total of four levels. Finally, the existing church repurposing was added to the project description as well. For the 2019 study two borings were drilled down to a depth of 110 feet and 30 below the existing site grade. Three test pits were also hand excavated. The levels of fill in the new borings is consistent with the 2017 and 2018 studies with a maximum depth of five feet. Old Alluvium was also recorded to 32.5 to 34 feet in depth. Finally, the bedrock encountered to the maximum depth of the borings was the Puente Formation, again consistent with the previous studies.

LACM Database Search

On April 20, 2018, ESA requested a database search from the Natural History Museum of Los Angeles County (LACM) for records of fossil localities in the Project Site. The purpose of the museum database search was to: (1) determine whether any previously recorded fossil localities occur in the Project Site, (2) assess the potential for disturbance of these localities during construction, and (3) evaluate the paleontological sensitivity in the Project Site. The database search returned no known localities within the Project site; however, a number of vertebrate fossils are known from similar sedimentary deposits in Los Angeles (McLeod, 2018), and these are summarized below. The results of the database search are included as **Appendix B**.

Older Quaternary Alluvium (Qae). The LACM has records of a number of fossil localities found in Older Quaternary Alluvium (late Pleistocene) across the Los Angeles Basin. The closest locality is LACM 6024, located just under 1 mile to the southwest of the Project Site (near the intersection of Wilshire Boulevard and Serrano Avenue), where a specimen of mammoth (*Mammuthus*) was collected from 65feetfeet below ground surface (bgs) (McLeod, 2018). Other localities in the vicinity of the Project Site include LACM 5845 and LACM 3250. LACM 5845 is situated approximately 1.3 miles northwest of the Project Site (near the intersection of Western Avenue and Council Street), where a mastodon (*Mammutidae*) was collected from 5 to 6 feet bgs. LACM 3250 is located approximately 1-mile north of the Project Site, where a mammoth (*Mammuthus*) was collected from 8 feet bgs (McLeod, 2018).

Modelo/Puente Formation (Tush). The LACM has records of a number of fossil localities in the Modelo/Puente formations. The closest known localities are LACM 6202 and 6203, located approximately 0.15 miles southwest of the Project Site, where dozens of marine fossils were collected from 60 to 80feet bgs (McLeod, 2018). Specimens were identified as belonging to 29 fish families, including eels, needlefishes, herrings, cods, hajes, lanternfishes, tunas, groupers, rockfishes, and many others (McLeod, 2018).

Paleontological Sensitivity Analysis

The results of the scientific literature review and geological map, as well as the review of the geotechnical report and database search from the LACM, have been used to assign the SVP's paleontological sensitivity rankings to the geologic units present at the surface or in the subsurface of the Project Site.

Artificial Fill (af). Although not mapped within the Project Site, the geotechnical report indicates that fill is present from surface to 5 feet bgs. Artificial fill consists of sediment and rubble that is the result of human activity. As such, these sediments are not natural and have **no paleontological sensitivity**.

Older Quaternary Alluvium (Qae). The extensive fossil record of known localities in Pleistocene alluvium from the Los Angeles Basin indicates that this unit has **high paleontological sensitivity**. There are localities from depths as shallow as 5 feet bgs within 1.5 miles of the Project Site. The geotechnical investigation indicates that the Project Site is underlain by 5 feet of fill and that Old Alluvium was encountered beneath the fill to depths between 32.5 and 34 feet bgs. Sedimentary bedrock of the Puente Formation was encountered beneath the Old Alluvium to 67 feet (the terminal depths of the geotechnical borings). Therefore, any excavations between approximately 5 to 30 feet in depth may encounter fossil resources related to the Older Quaternary Alluvium.

Modelo/Puente Formation (Tush). The extensive fossil record of known localities in the Modelo or Puente Formation from the Los Angeles Basin indicates that this unit has **high paleontological sensitivity**. There are localities are from depths of 60 to 80feet bgs less than 1 mile from the Project Site. Based on a review of the geotechnical investigation provided above, the Modelo/Puente Formation within the Project Site will be encountered between 32.5 and 34 feet bgs to at least 67 feet bgs (the terminal depth of geotechnical borings). Therefore, any excavations exceeding approximately 30 feet in depth may encounter fossil resources related to the Modelo or Puente Formation.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The findings of this assessment indicate that any Project-related excavation below 5 feet has the potential to encounter geologic units with high paleontological sensitivity. Older Quaternary alluvium, which has a history of preserving significant late Pleistocene fossil resources in the Los Angeles Basin, is known to be present within the Project Site at depths of approximately 5 to 30 feet bgs. Additionally, the Modelo or Puente Formation, which has a history of preserving significant late Miocene fossil resources in the Los Angeles Basin, is known to be present within the Project Site at depths of approximately 30 to 67 feet bgs (the terminal depth of geotechnical borings). Since Project-related excavation is expected to extend to 65 feet below existing surface, it could encounter paleontological resources below 5 feet and result in a potentially significant impact to unique paleontological resources.

Recommendations

Impacts to unique paleontological resources could occur if Project-related ground disturbance encounters geologic units with high paleontological sensitivity. The following mitigation measures are recommended in order to reduce impacts to unique paleontological resources to a less than significant level under CEQA:

1. **Retention of a Qualified Paleontologist.** A qualified paleontologist meeting the Society of Vertebrate Paleontology (SVP) Standards (SVP, 2010) (Qualified Paleontologist) shall be retained prior to the approval of demolition or grading permits. The Qualified Paleontologist shall provide technical and compliance oversight of excavation and grading during construction, recovery of fossil materials, and reporting, related to paleontological resources, shall attend the Project kick-off meeting and Project progress meetings on a regular basis, and shall report to the site in the event potential paleontological resources are encountered.
2. **Construction Worker Paleontological Resources Sensitivity Training.** The Qualified Paleontologist shall conduct construction worker paleontological resources sensitivity training prior to the start of ground disturbing activities (including vegetation removal, pavement removal, etc.). In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the Project Site and the procedures to be followed if they are found. The City shall retain documentation demonstrating that all construction personnel attended the training.
3. **Paleontological Resources Monitoring.** Full-time paleontological resources monitoring shall be conducted for all ground-disturbing activities that exceed5 feet in depth. Full-time monitoring can be reduced to part-time inspections or ceased entirely if determined adequate by the Qualified Paleontologist. Paleontological resources monitoring shall be performed by a

qualified paleontological monitor (meeting the standards of the SVP) under the direction of the Qualified Paleontologist. Monitors shall have the authority to temporarily halt or divert work away from exposed fossils in order to recover the fossil specimens. Any significant fossils collected during Project-related excavations shall be prepared to the point of identification and curated into an accredited repository with retrievable storage. Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries. The Qualified Paleontologist shall prepare a final monitoring and mitigation report to document the results of the monitoring effort.

4. If construction or other Project personnel discover any potential fossils during construction, regardless of the depth of work or location, work at the discovery location shall cease in a 25-foot radius of the discovery until the Qualified Paleontologist has assessed the discovery and made recommendations as to the appropriate treatment. If the find is deemed significant, it shall be salvaged following the standards of the SVP (SVP, 2010) and curated with a certified repository.

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Appendix A
Personnel

Alyssa Bell, PhD

Paleontologist

EDUCATION

Ph.D., Vertebrate Paleontology; University of Southern California

M.S., Environmental Microbiology; University of Tennessee

B.A. with honors, Ecology and Systematics; William Jewell College & Homerton College, Cambridge University

10 YEARS EXPERIENCE

Dr. Alyssa Bell has supervised and peformed field work, authored project reports, and provided scientific and compliance direction and quality control for paleontological projects throughout Southern California. Dr. Bell has accumulated a wealth of field experience, working with crews from a variety of institutions on field sites in California, Arizona, New Mexico, South Dakota, and Utah, and has led her own expeditions in Montana. She has performed all manner of investigations from surveys and assessments to monitoring and fossil idenfitication over the last 15 years as a part of her academic pursuits and professional consultation, with the last three years being exclusively professional endeavors.

In addition to consulting, Dr. Bell serves as a postdoctoral fellow at the Dinosaur Institute of the Natural History Museum of Los Angeles County (LACM). There she is involved in pursuing her own research into fossil birds as well as working with the Institute's field projects and museum-wide education and outreach initiatives. She has also published peer-reviewed articles and book chapters and given numerous presentations at scientific conferences on both her paleontological and microbiological research.

Relevant Experience

ICHA Area 10 (PA 10-2 & 10-4) Archaeological and Paleontological Monitoring, Irvine, CA. *Principal Investigator & Project Paleontologist.* Dr. Bell managed the curatorial process for fossils collected during monitoring of pre-construction activities at the University of California, Irvine, and authored the final report.

Suncrest Reactive Power Support Project, San Diego County, CA. *Principal Investigator.* Dr. Bell authored the paleontological assessment for the Proponent's Environmental Assessment (PEA) in support for a dynamic reactive power support facility and associated 230-kilovolt (kV) transmission line near Alpine, California. The application for Certificate of Public Convenience and Necessary was filed in summer 2015 and the PEA was deemed complete in December 2015.

Washington National Archaeological and Paleontological Monitoring (Access Culver City), Culver City, CA. *Principal Investigator & Project Paleontologist.* Dr. Bell managed the curatorial process for fossils collected during monitoring of pre-construction activities at the Washington national site in Culver City, CA and authored the final report.

OTO Hotels Santa Monica Archaeological and Paleontological Service, Santa Monica, CA. *Principal Investigator.* Dr. Bell supervised paleontological monitoring and mitigation services during construction excavations and grading. Services included implementation of a paleontological mitigation monitoring program and reporting.

Sacred Heart Specific Plan Environmental Impact Report (EIR), La Canada Flintridge, CA. *Principal Investigator.* Dr. Bell prepared paleontological studies and developed monitoring & mitigation recommendations for the Sacred Heart development project.

Sixth & Bixel Paleontological Monitoring Services Project, Los Angeles, CA. *Principal Investigator & Project Paleontologist.* Dr. Bell supervised paleontological monitoring of preconstruction activities in support of a development project encompassing two parcels in downtown Los Angeles. During these activities, monitors identified and recovered numerous significant vertebrate fossils. Dr. Bell supervised the excavation of fossilized whale remains discovered on-site, and oversaw the collection and curation of all fossil specimens.

Natural and Cultural Support for the Gordon Mull Subdivision EIR, Glendora, CA. *Principal Investigator.* Dr. Bell collected the necessary data to prepare the technical sections and mitigation recommendations to support an EIR prepared by another firm to address the Gordon Mull Subdivision in the city of Glendora. The project is proposes to redevelop a 71-acre, 19-lot located in the San Gabriel Foothills.

Lake Elsinore Lakeshore Town Center Permitting, Riverside County, CA. *Principal Investigator.* Dr. Bell provided paleontological studies and developed monitoring and mitigation recommendations for the Lake Elsinore Town Center project in Riverside County.

San Pedro Plaza Park - Phase III Archaeological Monitor, Los Angeles, CA. *Principal Investigator.* Dr. Bell identified fossils during the mitigation measurement-required archaeological monitoring of earthmoving activities in San Pedro Park Plaza. She is also responsible for curation of the fossil material and authorship of the paleontological section of the final report.

City of Hope Specific Plan and EIR, Duarte, CA. *Principal Investigator.* Dr. Bell provided paleontological resource studies for the City of Hope Specific Plan Project.

Blythe Solar Power Project, Units 1 & 2, Riverside County, CA. *Project Paleontologist.* Dr. Bell supervised paleontological monitoring of preconstruction activities for a solar photo-voltaic cell power-generating facility outside the city of Blythe. As a part of her role, she provided oversight and management of paleontological monitors and development of the final monitoring report.

Industrial Project Environmental Impact Report, Colton, CA. *Principal Investigator.* Dr. Bell provided a paleontological resources study for a six-acre industrial project site at the southwest corner of Agua Mansa Road and Rancho Avenue in the city of Colton.

Mojave Solar Project Paleontological Reporting, San Bernardino County, CA. *Principal Investigator.* Dr. Bell managed curation of fossil materials and authored the final report of paleontological monitoring services provided for construction activities in support of a solar field development project in San Bernardino County.

El Camino Real Bridge Replacement Environmental Services, Atascadero, CA. *Principal Investigator.* Dr. Bell provided environmental services, including preparation of all California Environmental Quality Act (CEQA)/National Environmental Policy Act (NEPA) documentation, technical studies, and permitting, for the replacement of the El Camino Real Bridge over Santa Margarita Creek in Atascadero.

Recycled Water Transmission Water Main Paleo Monitoring, Fresno, CA. *Principal Investigator.* Dr. Bell developed a monitoring and mitigation plan for the city of Fresno recycled water main construction project.

Shafter Wasco Irrigation District Natural and Cultural Resource Evaluations and Air Quality, Kern County CA. *Principal Investigator.* Dr. Bell provided paleontological studies and developed recommendations for the monitoring and mitigation of paleontological resources for the project.

Valentine EIR, Kern County, CA. *Principal Investigator.* Dr. Bell provided paleontological resources support for a 2,000-acre solar PV project in the Mojave Desert. Deliverables included comprehensive technical reports, GIS impact analysis, strategic and permitting support, and a paleontological field survey in the preparation of an EIR and other permitting requirements.

Valentine Solar EIR 115MW Supplemental Reports, Kern County, CA. *Principal Investigator.* Dr. Bell provided paleontological studies in support of changes to the previously established Valentine Solar project.

Valentine Solar Biological and Paleontological Study Updates, Rosamond, Kern County, CA. *Principal Investigator & Project Paleontologist.* Dr. Bell provided paleontological studies, carried out a paleontological survey, and developed monitoring and mitigation guidelines for the Valentine Solar project.

Field Research

2006-Present. The Dinosaur Institute, LACM. Coordinator and Team Leader on expeditions in Montana (Niobrara and Pierre Shale Formations) and Arizona (Chinle Formation). Field assistant on expeditions to Montana (Hell Creek Formation), Utah (Morrison Formation), Arizona (Chinle Formation), New Mexico (Kirtland Formation), and California (Aztec Sandstone). During this period approximately four-six weeks are spent in the field in various locations every year.

2015. Principal Investigator, Field Manager. SWCA Environmental Consultants. Supervision of all paleontological field work, including excavation of a partial whale fossil from a downtown Los Angeles construction site and numerous monitoring projects.

2014. University of Southern California. Field Assistant on an expedition to South Africa (Pre-Cambrian).

2005. Cambridge University. Field Assistant on an expedition in Badlands National Park, South Dakota (White River Group).

2002-2004. Montana State University Northern. Field Assistant on excavations in Montana (Judith River Formation).

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Sara Dietler

Archaeologist

EDUCATION

B.A., Anthropology, San Diego State University

19 YEARS EXPERIENCE

CERTIFICATIONS/ REGISTRATION

California BLM Permit, Principal Investigator, Statewide

Nevada BLM Permit, Paleontology, Field Agent, Statewide

PROFESSIONAL AFFILIATIONS

Society for American Archaeology (SAA)

Society for California Archaeology (SCA)

Sara is a senior archaeology and paleontology lead with 20 years of experience in cultural resources management in Southern California. As a senior project manager, she manages technical studies including archaeological and paleontological assessments and surveys, as well as monitoring and fossil salvage for many clients, including public agencies and private developers. She is a cross-trained paleontological monitor and supervisor, familiar with regulations and guidelines implementing the National Historic Preservation Act (NHPA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and the Society of Vertebrate Paleontology guidelines. She has extensive experience providing oversight for long-term monitoring projects throughout the Los Angeles Basin for archaeological, Native American, and paleontological monitoring compliance projects and provides streamlined management for these disciplines.

Relevant Experience

Los Angeles Unified School District (LAUSD) Central Los Angeles High School #9; Los Angeles, CA. *Senior Project Archaeologist & Project Manager*. Sara conducted on-site monitoring and investigation of archaeological sites exposed as a result of construction activities. During the data recovery phase in connection with a 19th century cemetery located on-site, she participated in locating of features, feature excavation, mapping, and client coordination. She organized background research on the cemetery, including genealogical, local libraries, city and county archives, other local cemetery records, internet, and local fraternal organizations. Sara advised on the lab methodology and setup and served as project manager. Sara was a contributing author and editor for the published monograph, which was published as part of a technical series, "Not Dead but Gone Before: The Archaeology of Los Angeles City Cemetery."

Downtown Cesar Chavez Median Project, City of Los Angeles, CA. *Project Manager*. Sara assisted the City of Los Angeles Department of Public Works Bureau of Engineering with a Local Assistance Project requiring consultations with Caltrans cultural resources. Responsible for Caltrans coordination, serving as contributing author and report manager for required ASR, HPSR, and HRER prepared for the project.

Elysian/USC Water Recycling Project Initial Study/Environmental Assessment, Los Angeles, CA. *Project Manager.* Sara worked on the Initial Study/Mitigated Negative Declaration and an Environmental Assessment/Finding of No Significant Impact to construct recycled water pipelines for irrigation and other industrial uses serving Los Angeles Department of Water and Power customers in downtown Los Angeles, including Elysian Park. The U.S. Environmental Protection Agency is the federal lead agency.

Appendix B
LACM Database Search Results

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

NATURAL HISTORY MUSEUM
LOS ANGELES COUNTY

Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smcleod@nhm.org

4 May 2018

Environmental Science Associates
2121 Alton Parkway, Suite 100
Irvine, CA 92606

Attn: Fatima Clark, Archaeologist

re: Paleontological resources for the proposed 550 Shatto Place Project, in the City of Los Angeles, Los Angeles County, project area

Dear Fatima:

I have thoroughly searched our paleontology collection records for the locality and specimen data for the proposed 550 Shatto Place Project, in the City of Los Angeles, Los Angeles County, project area as outlined on the portion of the Hollywood USGS topographic quadrangle map that you sent to me via e-mail on 20 April 2018. We do not have any vertebrate fossil localities that lie directly within the proposed project area boundaries, but we do have localities nearby from the same sedimentary deposits that occur in the proposed project area, either at the surface or at depth.

In the entire proposed project area the surface deposits are composed of older Quaternary Alluvium, derived as alluvial fan deposits from the elevated terrain to the northeast. The uppermost layers of Quaternary Alluvium in this general portion of Los Angeles usually do not contain significant vertebrate fossils, but vertebrate fossils do occur at varying depths. Our closest vertebrate fossil locality from older Quaternary deposits, LACM 6204, situated just south of west of the proposed project area near the intersection of Wilshire Boulevard and Serrano Avenue, produced a fossil specimen of mammoth, *Mammuthus*, at a depth of 65 feet below grade. Further northwest of the proposed project area, near the intersection of Western Avenue and Council Street, our locality LACM 5845, also from these older Quaternary sediments, produced a specimen of fossil mastodon, Mammutidae, at a depth of only 5-6 feet below the surface. Just east of due north of the proposed project area, at about the intersection of Madison Avenue and Middlebury Street, our locality LACM 3250 produced a fossil specimen of mammoth, *Mammuthus*, at a depth of about eight feet below street level.

Near the northern three sides of the proposed project area there are exposures of the marine late Miocene Puente Formation (also sometimes referred to as the Upper Modelo Formation or as an unnamed shale in this area). Exposed in the surrounding elevated terrain, these Puente Formation deposits also probably underlie the Quaternary Alluvium in the proposed project area at depth. Just west of south of the proposed project area, around the intersection of Vermont Avenue and Wilshire Boulevard, we have the vertebrate fossil localities LACM 6202 and 6203 from the Puente Formation discovered during excavation for the Meterorail Wilshire / Vermont station at a depth of 60 to 80 feet beneath the surface. Fossil specimens of eels, Anguilliformes, and needlefishes, Belonidae, were recovered at locality LACM 6203. Locality LACM 6202, however, was an extremely productive locality that contained an extensive fauna of fossil fish. A list of the fossil fish taxa from locality LACM 6202 is provided in the attached appendix.

Very shallow excavations of only a few feet in the Quaternary Alluvium exposed in all or almost all of the proposed project area may not encounter any significant fossil vertebrate remains. Deeper excavations that extend down into older sedimentary deposits, particularly if they extend down into the Puente Formation that may also be exposed in the very northwestern-most portion of the proposed project area, however, may very well uncover significant vertebrate fossils. Any substantial excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosures: appendix; invoice

Fossil fish taxa from LACM 6202, Metrorail Red Line Vermont / Wilshire Station

- Osteichthyes - bony fishes
  - Anguilliformes - eels
  - Atheriniformes
    - Belonidae - needlefishes
  - Beryciformes
    - Anoplogasteridae - fangtooths
      - *Anoplogaster*
    - Melamphaeidae - bigscales
      - *Scopelogadus*
  - Clupeiformes
    - Clupeidae - herrings
      - *Ganolytes cameo*
      - *Xyne grex*
  - Gadiformes
    - Gadidae - cods
      - *Physiculus*
    - Macrouridae - grenadiers
    - Merlucciidae - hakes
      - *Merluccius*
    - Moridae - flatnoses
  - Lophiiformes - frogfishes
    - Linophrynidae
    - Oneirodidae
      - *Oneirodes*
  - Myctophiformes
    - Myctophidae - lanternfishes
      - *Diaphus*
      - *Lampanyctus*
  - Perciformes
    - Carangidae - jacks
      - *Pseudoseriola*
    - Gempylidae - snake mackerals
      - *Thyrsocles*
    - Sciaenidae - croakers
      - *Lompoquia*
    - Scombridae - tunas & mackerals
      - *Sarda*
      - *Scomber*
    - Serranidae - groupers
    - Trichiuridae - cutlassfishes
  - Pleuronectiformes
    - Citharidae - sanddabs
      - *Citharichthys*
    - Pleuronectidae - fluonders & soles
      - *Hippoglossus*
      - *Pleuronichthys*
  - Salmoniformes
    - Alepocephalidae - slickheads
    - Argentinidae - argentinas
    - Bathylagidae - smoothtongues
      - *Bathylagus*
    - Opisthoproctidae - spookfishes
    - Searsiidae - tubeshoulders
  - Scorpaeniformes
    - Scorpaenidae - rockfishes
      - *Sebastes*
  - Stomiatiformes
    - Chauliodontidae - viperfishes
      - *Chauliodus eximius*
    - Gonostomidae - bristlemouths
      - *Cyclothone*
      - *Vinciguerria*
    - Sternoptychidae - hatchetfishes
      - *Argyropelecus*
    - Stomiatidae - dragonfishes
      - *Stomias*

Appendix D
Historical Resources Assessment

HISTORIC RESOURCES GROUP

12 S. Fair Oaks Avenue, Suite 200
Pasadena, CA 91105

Tel 626-793-2400
historicresourcesgroup.com

MEMO

TO: LOS ANGELES CITY PLANNING
ATTN: MICHELLE CARTER, CITY PLANNER
FROM: CHRISTINE LAZZARETTO, MANAGING PARTNER;
JOHN LOCASCIO, AIA, PRINCIPAL ARCHITECT
RE: CPC-2024-4111-DB-PR-VHCA; ENV-2024-4112-EAF
DATE: JULY 19, 2024

Introduction

This memorandum is the second Addendum to the Historical Resources Technical Report (the Technical Report) dated April 25, 2019, prepared for the previously approved project (the Approved Project) located at 550 South Shatto Place in the City of Los Angeles (the Project Site). The Applicant subsequently acquired the adjacent property at 514 South Shatto Place, incorporated that parcel into the Project Site, and expanded the scope of the Project (the Modified Project). The first Addendum to the Technical Report was prepared in September 2020 to evaluate the potential historical significance of the existing commercial building at 514 South Shatto Place; to document the differences between the Approved Project and the Modified Project; and to evaluate potential impacts to historical resources on the Project Site and in the Project vicinity as a result of the Modified Project.

The Applicant has now redesigned and reduced the scope of work (the Current Project) as shown in the "Shatto & 6th Conceptual Design" package prepared by KTGY Architecture, dated June 18, 2024. The purpose of this second Addendum is to document the differences between the Approved Project, the Modified Project reviewed in 2020, and the Current Project; to evaluate potential impacts to historical resources on the Project Site and in the vicinity as a result of the Current Project; and to evaluate the Current Project's compliance with the Cultural Resources Mitigation Measures in the Mitigation Monitoring Program of the Citywide Housing Element 2021-2029 and Safety Element Updates Final Environmental Impact Report, October 2021. This addendum is intended to inform environmental review of the Current Project. It evaluates only those potential impacts that may result from the changes proposed in the Current Project; all other aspects of the evaluation of those elements of the Modified Project and the Approved Project that are not affected by the Current Project, including determination of potential impacts and recommended mitigation, remain valid.

The 2019 Technical Report determined that, with the implementation of the recommended mitigation measure to provide a shoring plan to ensure the protection of the adjacent historical resources, the Approved Project would not result in significant adverse impacts as defined by CEQA to historical resources on the Project Site or in the Project vicinity. The 2020 amendment determined that, with implementation of the same mitigation measure, the Modified Project would not result in significant adverse impacts to historical resources on the Project Site or in the Project vicinity. This amendment has determined that, because the scope of the Current Project has been substantially reduced compared to that of the Modified Project, any potential impacts to historical resources resulting from the Current Project would be correspondingly reduced; the Current Project complies with the applicable Cultural Resources Mitigation Measures in the Citywide Housing Element Mitigation Monitoring Program; and therefore, the Current Project would not result in significant adverse impacts to historical resources on the Project Site or in the Project vicinity.

Project Summary

The Current Project is an eight-story building with five levels of Type IIIA construction over a three-level podium of Type I construction. The Current Project provides 318 residential units in a mix of studio, one-, and two-bedroom models; a total of 234 parking spaces; 24,431 square feet of open space; and common resident amenity spaces such as a club lounge, fitness center and co-working space. The Current Project, like the Approved Project and the Modified Project, will rehabilitate the former First English Evangelical Lutheran Church Building at 550 South Shatto Place for new use as restaurant space. The rehabilitation scope of work proposed for the church building in the Current Project is the same as that proposed in the Modified Project; therefore, it is not further evaluated herein.

An architectural rendering of the Current Project is included in Figure 1 on page 3 of this addendum. A comparison of the Current Project with the Approved Project and the Modified Project is included in Table 1 beginning on page 4.

FIGURE 1: ARCHITECTURAL RENDERING

Current Project, view northeast from Shatto Place (ktgy Architecture + Planning

TABLE 1: COMPARISON OF APPROVED PROJECT, MODIFIED PROJECT, AND CURRENT PROJECT

APPROVED PROJECT, 2019	MODIFIED PROJECT, 2020	CURRENT PROJECT, 2024
Proposed Mixed-use High Rise Building	***Proposed Mixed-use High Rise Building***	***Multi-Family Residential Building***
222,944 square foot mixed-use high-rise	420,470 square foot mixed-use high-rise	337,959 gross square feet residential building
Maximum height 341 feet (31 stories) plus mechanical equipment and rooftop appurtenances	Maximum height 483 feet (40 stories) plus mechanical equipment and rooftop appurtenances	Maximum height 96 feet (eight stories)
Maximum 256 residential units (incl. 252 apartments and 4 townhomes)	Maximum 367 residential units	Maximum 318 residential units
29 affordable units	42 affordable units	36 affordable units
2,507 square feet office uses	11,965 square feet office uses	No office uses
	4,463 square feet restaurant uses	No restaurant uses
Vehicle access (ingress/egress) provided from one entrance along Shatto Place, appx. midway along westerly property line	Vehicle access (ingress/egress) provided via driveway near north property line, accessed from Shatto Place; passenger drop-off area along Shatto Place located appx. midway along west property line	Vehicle access (ingress/egress) provided via driveways near north and south portions of new building, accessed from Shatto Place; valet and passenger drop-off/pick-up area provided in ground level parking
On-site loading area also accessible via entrance along Shatto Place	On-site loading area accessible via service entry at southeast corner of Project Site, accessed from 6th Street	On-site USPS/move-in/staging area in ground floor parking, accessible from south driveway
329 parking spaces in four subterranean levels and at ground level	470 parking spaces in four subterranean levels and at ground level	234 parking spaces in two subterranean levels and at ground level
Long- and short-term bicycle parking provided	Long- and short-term bicycle parking provided	Long- and short-term bicycle parking provided
Ground floor: Four office spaces, five parking stalls, residential lobby, and office	Ground floor: Publicly accessible landscaped plaza with restaurant pavilion; lobby, office space, restaurant space, mechanical equipment rooms, trash room, mail room, long- and short-term bike parking, and customer station at loading dock in rear	Ground floor: Main lobby, leasing office, and mail room; wi-fi lounge; co-working space; apartment units; electrical, mechanical, and trash rooms; bike storage; and secondary lobby
Level 2: Outdoor and indoor amenity spaces; townhouses	Level 2: Outdoor and indoor amenity spaces; office space	Level 2: Central courtyard, double-height covered breezeway, fitness room, double-height club room, apartment units
Level 3-27: Apartment units	Level 3: Outdoor and indoor amenity spaces; pool	Level 3: Apartment units
Level 28-29: Penthouse apartments	Level 4-12: Co-living apartment units	Levels 4-8: Typical apartment units

APPROVED PROJECT, 2019	MODIFIED PROJECT, 2020	CURRENT PROJECT, 2024
Level 30-31: Additional amenity areas; pool	Level 13-37: Typical apartment units	N/A
	Level 38: Sub-penthouse apartments	N/A
	Level 39: Penthouse apartments	N/A
	Level 40: Additional outdoor and indoor amenity areas	N/A
Exterior materials: aluminum framed window system c/w sealed vision glass and spandrel glazing unit; glazed aluminum guardrail; architectural metal screen; painted concrete	Exterior materials: aluminum glazing system; frosted glass; metal and glass guardrails; exposed concrete; expanded metal panels; perforated screen; colored tile	Exterior materials: stucco; natural concrete; vinyl windows; clear anodized aluminum storefront; picket railing; metal fence posts; clear anodized aluminum panels
Separated from church by driveway	Separated from church by publicly accessible plaza and stepping up from two-story podium	Separated from church by side yard, 13'-3" minimum to 17'-3" maximum
Merger and re-subdivision of site into single ground lot and four airspace lots	Merger and re-subdivision of site into single ground lot and four airspace lots	Merger and re-subdivision of site into single ground lot and four airspace lots
Adaptive Re-use of Existing Church		
12,800 square feet of restaurant uses	Church building converted to restaurant uses[1]	No change in scope of work
	Addition of new second floor area within double-height nave of former Church	
Addition of elevator and small lobby at north façade	Elimination of exterior addition to north façade; elevator accommodated within existing building	
New access ramp leading from Shatto Place to new accessible entrance/egress doors on north façade	New access ramps leading from 6^{th} Street and Shatto Place to new accessible entrance/egress doors on north façade	
Addition of wide bi-folding glass doors between buttresses on south façade to open former sanctuary to arcade and new dining patio	Addition of floor-to-ceiling windows and bi-folding glass doors between buttresses on south façade at interior wall of arcade	
	Addition of wide bi-folding glass doors between buttresses on north façade to open former sanctuary to new outdoor dining area	

[1] The Modified Project includes restaurant space in a new second floor created within the nave of the Church.

<table>
<tr><th>APPROVED PROJECT, 2019</th><th>MODIFIED PROJECT, 2020</th><th>CURRENT PROJECT, 2024</th></tr>
<tr><td rowspan="2">Replacement of existing paneled wood doors at main entrance with new glass doors (original doors stored on site)</td><td>Replacement of existing paneled wood doors at main entrance with new glass doors (original doors stored on site)</td><td rowspan="13"></td></tr>
<tr><td>Addition of patterned steel screens and gate at south side of west façade</td></tr>
<tr><td>Replacement of existing stained glass with new stained glass in new pattern within existing window sash</td><td>Replacement of existing stained glass with new stained glass in new pattern within existing window sash</td></tr>
<tr><td>Addition of two new windows at second story on south façade</td><td>Addition of two new windows at second story on south façade</td></tr>
<tr><td rowspan="4">Replacement of two pairs of wood doors on east façade with glass doors</td><td>Replacement of one pair of wood doors on east façade with new glass storefront</td></tr>
<tr><td>Addition of new window and glass façade screen system over original window openings on east façade</td></tr>
<tr><td>Reorientation of existing exterior stair and addition of door at second floor of east façade</td></tr>
<tr><td>Replacement of door with window at second floor of east façade</td></tr>
<tr><td>Addition of two skylights on east side of roof</td><td>Addition of two skylights on east side of roof</td></tr>
<tr><td>Addition of two skylights on north side of roof</td><td>Addition of two skylights on north side of roof</td></tr>
<tr><td>Addition of mechanical equipment on east façade and intake and exhaust vents on north and east façades</td><td>Addition of mechanical equipment on east façade and intake and exhaust vents on north and east façades</td></tr>
<tr><td>Addition of gateway at southeast corner of church building along 6th Street, constructed of metal and glass, including a stained-glass screen wrapping the southeast corner of the church building at the second story</td><td>Addition of gateway at southeast corner of church building along 6th Street, constructed of metal and glass, including a stained-glass screen wrapping the southeast corner of the church building at the second story</td></tr>
</table>

Identification of Historical Resources

HISTORICAL RESOURCES ON THE PROJECT SITE

The 2019 Technical Report identified one historical resource as defined by CEQA located on the Project Site, the existing church building located at 550 South Shatto Place. It was not re-evaluated in the first addendum and is not re-evaluated herein; it is considered a historical resource for the purposes of review of the Project. The Applicant subsequently acquired the adjacent property at 514 South Shatto Place and incorporated it into the Project Site. The existing commercial building located at 514 South Shatto Place was evaluated in the first amendment to the Technical Report, which determined that it was not a historical resource as defined by CEQA.

HISTORICAL RESOURCES IN THE VICINITY OF THE PROJECT SITE

The 2019 Technical Report identified two potential historical resources located immediately adjacent to the Project Site: 3109 West 6th Street and 523 South Westmoreland Avenue. These properties were identified by SurveyLA as potentially individually eligible for historic designation. They are therefore considered historical resources as defined by CEQA for purposes of Project review.

Evaluation of Potential Impacts

POTENTIAL IMPACTS TO HISTORICAL RESOURCES ON THE PROJECT SITE

Impacts from Demolition and Alteration
The Current Project, like the Modified Project, would demolish the existing four-story commercial building at 514 South Shatto Place and the two classroom buildings and surface parking lot at 550 South Shatto Place; and would adapt the historic church building at 550 South Shatto Place for new use as restaurant space. The first Addendum determined that the demolition and alterations proposed in the Modified Project would not result in a substantial adverse change to historical resources on the Project Site. The Current Project does not propose any changes in the scope of demolition or rehabilitation from the Modified Project; therefore, the Current Project would not result in significant adverse impacts to historical resources on the Project Site from demolition or alteration.

Impacts from New Construction
The Current Project would construct a new eight-story multi-family residential building of 337,959 gross square feet next to the existing church building. This is 32 stories shorter and 20 percent smaller in floor area than the tower proposed in the Modified Project. The new building in the Current Project would be separated from the adjacent church building by a side yard that varies in width from 13’-3” minimum to 17’-3” maximum. This is narrower than the landscaped plaza proposed in the Modified Project, but approximately the same as the intervening pedestrian walkway proposed in the Approved Project.

Like the Approved Project and the Modified Project, the new construction proposed in the Current Project is not an addition to the church building; it is conceived and designed as a building separate and distinct from the church building. It would be structurally independent of the church building, and it would read as a separate building when viewed from the public right-of-way. As in the design in the Approved Project and the Modified Project, the shape and form of the adjacent church building would remain intact, and its architectural features would remain viewable and understandable from the exterior after implementation of the Current Project.

The Current Project would not impact the church's integrity of *location*, *design*, *materials*, *workmanship*, or *feeling*. Similar to the new construction proposed in the Approved Project and the Modified Project, the new construction proposed by the Current Project would alter the church building's integrity of *setting*. However, the new construction proposed in the Current Project represents a dramatic reduction in size and scale from the Modified Project. The proposed new construction would not alter or obscure important character-defining features of the church building. The new construction will not materially impair the church building, and the physical characteristics that convey the significance of the church will remain intact. The church will continue to convey its historic significance and it will remain eligible for historic designation following implementation of the Current Project.

The Current Project proposes two levels of subterranean parking, two less than the four levels proposed in the Modified Project. This reduces, but does not eliminate, the risk for potential impacts to the structural integrity of the adjacent church building as the result of excavation and construction activity. Absent specific mitigation measures to ensure the proper protection and treatment of the church building during demolition, excavation and construction, there is a potential for significant impacts. However, with the implementation of appropriate mitigation as recommended in the Technical Report, the potential for impacts to the building during construction is reduced to less than significant as defined by CEQA.

POTENTIAL IMPACTS TO HISTORICAL RESOURCES IN THE PROJECT VICINITY

The Technical Report and the first Addendum determined that the Approved Project and the Modified Project would alter the integrity of *setting* of the two historical resources located immediately east of the Project Site, 3109 West 6th Street and 532 South Westmoreland Avenue. However, both resources would retain integrity of *location*, *design*, *materials*, *workmanship*, *feeling*, and *association*, and therefore would not be materially impaired such that they could no longer convey their historic significance. The Current Project is substantially lower in height and smaller in floor area than the Modified Project; therefore, its impact on the setting of the adjacent historical resources would be reduced from the potential change in setting identified in the review of the Modified Project. Following construction of the Current Project, both of the historical resources in the Project vicinity would retain integrity of *location*, *design*, *materials*, *workmanship*, *feeling*, and *association*, and the impact to integrity of setting would be reduced in comparison with the Modified Project. The significant character-defining features of both historical resources in the Project vicinity would be retained and both buildings would remain eligible for historic designation. Thus, the Current Project, like the Approved Project and the Modified Project, will not materially impair either of the adjacent historical resources such that they could no longer convey their historic significance.

The Current Project proposes two levels of subterranean parking, two less than the four levels proposed in the Modified Project. This reduces, but does not eliminate, the risk for potential impacts to the structural integrity of the adjacent historical resources as the result of excavation and construction activity. Absent specific mitigation measures to ensure the proper protection and treatment of the adjacent historical resources during demolition, excavation and construction, there is a potential for significant impacts. However, with the implementation of appropriate mitigation as recommended in the Technical Report, the potential for impacts to the buildings during construction is reduced to less than significant as defined by CEQA.

Mitigation Monitoring Program

The Current Project is subject to the mitigation measures adopted in the Mitigation Monitoring Program (MMP) of the Citywide Housing Element 2021-2029 and Safety Element Updates Final Environmental Impact Report (City of Los Angeles, October 2021). Table 2 outlines the Current Project's compliance with the Cultural Resources Mitigation Measures specified in the MMP.

TABLE 2: CULTURAL RESOURCES MITIGATION

CITYWIDE HOUSING ELEMENT 2021-2029 AND SAFETY ELEMENT UPDATES FEIR MMP	
Cultural Resources Mitigation Measures	**Current Project Compliance**
4.4-1(a) Identification of Built-Environment Historical Resources For discretionary projects, the following procedures shall be implemented to identify historical resources, as defined by Public Resources Code Section 21084.1, located on or near a development site and implement appropriate techniques to avoid or reduce significant impacts to historical resources. The City of Los Angeles Historic Resources Survey (SurveyLA) results shall be consulted to determine whether the project area, or adjacent areas, have been subject to previous cultural resources studies and whether historical resources were identified. If a development involves the alteration or demolition of a property 45 years of age or older that was not evaluated in SurveyLA, including sites with a QQQ code, a historical resources evaluation shall be prepared for the development. The evaluation shall be prepared according to the following standards: • The evaluation shall be prepared by a qualified architectural historian or historian who meets the Secretary of the Interior's Professional Qualifications Standards (PQS) in architectural history or history. • The qualified architectural historian or historian shall conduct an intensive-level evaluation in accordance with the guidelines and best practices promulgated by the State Office of Historic Preservation (OHP) and the City of Los Angeles Office of Historic Resources (OHR) to identify any potential historical resources within the Area of Potential Effects. Those building and structures required to be assessed in a historical resource evaluation not located in an HPOZ shall be evaluated within their historic context and documented in a report meeting the OHP and OHR guidelines. All evaluated properties shall be documented	The 2019 Historical Resources Technical Report prepared for the Approved Project, the 2020 Addendum prepared for the Revised Project, and this Addendum prepared for the Current Project all satisfy MM 4.4-1(a). They were prepared by Historic Resources Group staff including an architectural historian and historic architect who meet the Secretary of the Interior's Professional Qualifications Standards in their respective fields. SurveyLA results were consulted, and intensive-level evaluations were conducted in accordance with OHP and OHR guidelines and were submitted to OHR for review and concurrence. The Historical Resources Technical Report for the Approved Project determined that, with recommended mitigation to protect the structural integrity of the existing church building at 550 S. Shatto Place during excavation and construction processes, the Approved Project would not result in significant impacts to historical resources located on the Project Site.

on Department of Parks and Recreation Series 523 Forms. The report shall be submitted to the OHR for review and concurrence. If, as a result of the cultural resources records search or the subsequent historical resources evaluation, it is determined that the proposed development would result in a significant adverse effect to one or more historical resources, appropriate techniques consistent with the Secretary of Interior Standards to avoid or reduce significant impacts to the degree feasible shall be implemented. Measures to reduce impacts shall generally be overseen by a qualified architectural historian or historic architect meeting the PQS, unless unnecessary under the circumstance (e.g., preservation in place). In conjunction with any development application that may affect the historical resource, a mitigation plan identifying measures for the treatment or protection of character-defining features shall be provided to the City for review. Measures may include but not be limited to mitigation measures 4.4-1(b) to 4.4-1(j) below.	
4.4-1(b) Rehabilitation of Historical Resources If required under the mitigation plan in the historical resources evaluation prepared under MM 4.4-1(a), comply with the following measure. If a development proposes alteration or addition to a historical resource to allow for its continued use, the integrity of the resource could be undermined such that it would no longer convey the historical associations that make it eligible for listing. To reduce such impacts, a resource may be rehabilitated in conformance with the Secretary's Standards to allow for continued or new uses while maintaining features that convey the resource's historical significance. Construction of a project as it relates to rehabilitation of a historical resource shall be monitored for compliance with the Secretary's Standards. The construction monitoring shall: • Be performed by a professional meeting the Secretary of the Interior's Professional Qualifications Standards (PQS) for historic architecture with at least five years of demonstrated experience in rehabilitating historic buildings of similar size. • Be performed by the professional at regular intervals during the rehabilitation of the historical resource. The intervals shall include, but not necessarily limited to 50 percent, 90 percent, and 100 percent construction. The monitor shall create a technical memorandum at each interval summarizing the findings, making recommendations as necessary to ensure compliance with the Secretary's Standards, and documenting construction with digital photographs. Compliance with the Secretary's Standards shall include the review specifications, tests, and mockups for the treatment of historic building materials. The monitor shall submit the memoranda to City of Los Angeles Office of Historic Resources (OHR) for	The Current Project satisfies MM 4.4-1(b). The Historical Resources Technical Report for the Approved Project and the 2020 Addendum for the Revised Project determined that the proposed alterations to the historic church building at 550 Shatto Place would not result in significant adverse impacts such that the church would no longer convey its historic significance. However, the Current Project includes a Project Specific Project Design Feature (PDF) for construction monitoring: ***PDF CULT-1****: To ensure the retention and appropriate treatment and rehabilitation of all the identified character-defining features of the former church building, that would be retained as part of the Modified Project, a preservation architect or preservation professional would be retained to monitor the appropriate treatment and rehabilitation of the former church building during construction.*

concurrence. In the event OHR does not concur, all activities shall cease until compliance with the Secretary's Standards is resolved and concurrence obtained.	
4.4-1(c) Design Requirements for New Construction If required under the mitigation plan in the historical resources evaluation prepared under MM 4.4-1(a), comply with the following measure: If a development proposes new construction on a site containing a historical resource, the project design team shall consult with a preservation architect or other qualified professional to ensure that new construction is designed and constructed in accordance with the Secretary of Interior's Standards to ensure the proposed new construction would protect the historic integrity of the historical resource and any adjacent historical resources. The final design shall require the approval of OHR. In the event OHR does not concur, all activities shall cease until compliance with the Secretary's Standards is resolved and concurrence is obtained.	See PDF CULT-1 above which requires that a preservation architect or preservation professional would be retained to monitor the appropriate treatment and rehabilitation of the former church building during construction. This satisfies MM 4.4-1(c).
4.4-1(d) Relocation and Rehabilitation of Historical Resources If required under the mitigation plan in the historical resources evaluation prepared under MM 4.4-1(a), comply with the following measure. For any project for which retention or rehabilitation of a historical resource is not feasible, a feasibility study, subject to City review and approval, shall be prepared weighing the costs, advantages, and disadvantages of relocation, which would preclude the demolition of a resource by removing it intact to another site. If the study concludes it is feasible to relocate the historical resource, the structure's availability shall be advertised in historic preservation websites such as HistoricForSale, Historic Properties, Old Houses, and Preservation Directory and a local newspaper such as the Los Angeles Times for a period of not less than 60 days by the project applicant. Any such relocation efforts shall be undertaken in accordance with a Relocation and Rehabilitation Plan prepared by the party taking possession of the structure to be moved. The Relocation and Rehabilitation Plan shall be developed in conjunction with a qualified architectural historian, historic architect, or historic preservation professional who satisfies the Secretary of the Interior's Professional Qualifications Standards (PQS) for History, Architectural History, or Architecture, pursuant to 36 CFR 61. The Plan shall include relocation methodology recommended by the National Park Service, which are outlined in the booklet entitled "Moving Historic Buildings," by John Obed Curtis (1979). Upon relocation of the structure to the new site, any maintenance, repair, stabilization, rehabilitation, preservation, conservation, or reconstruction work performed in conjunction with the relocation of the building shall be undertaken in a manner consistent with the Secretary's Standards. The Relocation and Rehabilitation Plan shall be reviewed and approved by	MM 4.4-1(d) is not applicable. The Project is retaining the historic church building at 550 Shatto Place.

the City of Los Angeles Office of Historic Resources (OHR) prior to its implementation. In addition, a plaque describing the date of the move and the original location shall be placed in a visible location on the historical resource. If after three months it is evident that no party is interested in purchasing the historical resource per the mitigation measure stipulated above, then the Historic American Building Survey (HABS) Level II documentation, as described below in Mitigation Measure 4.4-l(e), would be required to document the important history and architecture of the historical resource. Relocation shall not take place until the historical resource is first recorded pursuant to the HABS Level II requirements. Any relocation activities undertaken by third parties shall be fully completed prior to the commencement of construction activities. The relocated historical resource shall be moved in accordance with all applicable regulatory requirements, including those applicable provisions of Chapter 83 of the Los Angeles Building Code, and shall be moved during off-peak hours so as to avoid potential traffic impacts.	
4.4-1(e) Historic American Building Survey Documentation If required under the mitigation plan in the historical resources evaluation prepared under MM 4.4-l(a), comply with the following measure. If significant historical resources are identified on a development site and avoidance or compliance with the Secretary's Standards is not possible, prior to development activities, the project applicant shall prepare a Historic American Buildings Survey (HABS) Level II documentation for the historical resource and remaining historic property setting. The HABS document shall be prepared by a qualified architectural historian, historic architect, or historic preservation professional who satisfies the Secretary of the Interior's PQS for History, Architectural History, or Architecture, pursuant to 36 CFR 61. This document shall record the history and architecture of the property, as well as important events or other significant contributions to the patterns and trends of history with which the property is associated, as appropriate. The property's physical condition, both historic and current, shall be documented through site plans; historic maps and photographs; original as-built drawings; large format photographs; and written data. Building exteriors, representative interior spaces, character-defining features, as well as the property setting and contextual views shall be documented. Field photographs and notes shall also be included. All documentation components shall be completed in accordance with the Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation. The HABS documentation shall be submitted to the National Park Service for transmittal to the Library of Congress, and archival copies shall be sent to the City of Los Angeles Office of Historic Resources (OHR) and Los Angeles	MM 4.4-1(e) is not applicable. The Historical Resources Technical Report for the Approved Project and the 2020 Addendum for the Revised Project determined that the Project would not result in significant adverse impacts to historical resources.

Public Library. Per the Secretary of the Interior's Standards for Architectural and Engineering Documentation, preparation of the HABS document serves to "[provide] important information on a property's significance for use by scholars, researchers, preservationists, architects, engineers and others interested in preserving and understanding historic properties."	
4.4-1(f) Interpretive Program If required under the mitigation plan in the historical resources evaluation prepared under MM 4.4-l(a), comply with the following measure. If avoidance of the historical resource is not feasible, the project shall include an interpretive display located on the property which addresses the historical context and architectural or historical significance of the resource and informs the public about the history and original configuration of the property. The display shall be reviewed and approved by the City prior to installation at a site to be chosen by the City.	MM 4.4-1(f) is not applicable. The Historical Resources Technical Report for the Approved Project and the 2020 Addendum for the Revised Project determined that the Project would not result in significant adverse impacts to historical resources.
4.4-1(g) Construction Monitoring, Salvage, and Reuse If required under the mitigation plan in the historical resources evaluation prepared under MM 4.4-l(a), comply with the following measure. If retention of a historical resource is not feasible, and the historical resource is significant for its architectural design or construction method, the project applicant shall retain a qualified architectural historian or historic preservation professional who satisfies the Secretary of the Interior's Professional Qualifications Standards (PQS) for Architectural History to conduct construction monitoring and salvage during demolition. Any important historic fabric associated with the historical resource's period of significance shall be fully recorded in photographic images and written manuscript notes. Prior to the commencement of demolition, significant material shall be inventoried and evaluated for potential salvage, analysis, reuse, and interpretation. The qualified architectural historian or historic preservation professional shall prepare the necessary written and illustrated documentation in a construction monitoring and salvage report. This document shall record any historically significant construction methods completed during the period of significance as well as document the historical resource's present physical condition through site plans; historic maps and photographs; sketch maps; digital photography; and written data and text. A salvage and reuse plan shall be created, identifying elements and materials that can be saved prior to the issuance of a demolition permit. The plan shall be prepared by a qualified architectural historian or historic preservation professional with demonstrated experience in developing salvage and reuse plans. The plan shall be submitted to the City of Los Angeles Office of Historic Resources. Elements and materials that may be salvageable include: windows, doors, roof tiles, decorative elements, framing members, light fixtures,	MM 4.4-1(g) is not applicable. The Project will retain the historical resource at 550 Shatto Place.

plumbing fixtures, and flooring materials such as tiles and hardwood. The salvageable items shall be removed in the gentlest, least destructive manner possible. The plan shall identify the recipient(s) for the items. All documentation components shall be completed in accordance with the Secretary of the Interior's Standards and for Archaeological Documentation for above ground structures. The completed documentation shall be placed on file at the South Central Coastal Information Center, California State University, Fullerton, California; and the City of Los Angeles Public Library. Findings shall be incorporated into the Historic American Buildings Survey (HABS) report.	
4.4-1(h) Temporary Protective Relocation If required under the mitigation plan in the historical resources evaluation prepared under MM 4.4-l(a), comply with the following measure. For projects for which development would have the potential to cause damage to a historical resource and the resource cannot be protected in place, if feasible, the resource may be temporarily relocated to prevent such damage. Prior to development, the applicant shall contact stakeholders directly via letter detailing the location of the project site, its potential impact on the resource, project timeframe, identification of the affected resource, proposed procedures for removal resource or parts of resource with affected, where and for how long the resource would be stored, how it would be secured, and other relevant details. Photographic and documentary recordation of the potentially impacted resource shall be completed by a qualified architectural historian meeting the PQS for Architectural History. Prior to any construction or demolition activities that have the potential to damage the resource, elements that cannot be reasonably protected in place shall be carefully removed by a qualified restoration contractor. Each removed element shall be promptly stored at a secured off-site location. Following completion of project construction, reinstallation of each affected element at its original documented location shall occur [by a qualified restoration contractor] with work completed to the satisfaction of the OHR, and the Department of Public Works Bureau of Engineering, and other interested parties. Excavation and construction activities in the vicinity of the resource and work conducted by the restoration contractor to remove, store, and replace affected elements, shall be monitored by a qualified historic preservation consultant meeting the PQS for Architectural History and documented in a monitoring report that shall be provided to OHR.	MM 4.4-1(h) is not applicable. The Project will retain the historic church building at 550 Shatto Place, protect it in place, and adapt it for new use.
4.4-1(i) Excavation and Shoring Plan If required under the mitigation plan in the historical resources evaluation prepared under MM 4.4-l(a), comply with the following measure. For projects in which excavation and shoring have the potential to damage a historical resource in close proximity to the project site, an excavation and shoring	The Current Project satisfies MM 4.4-1(j). The 2019 Historical Resources Technical Report requires preparation of a shoring plan as mitigation for potential impacts from adjacent excavation. MM Noise-7 states that prior to the issuance of grading permits, the Applicant will provide a shoring plan prepared by a qualified structural engineer who meets

plan shall be implemented to reduce the likelihood that earth-moving activities will result in damage to the historical resource due to earth moving activities. Procedures shall be implemented for shoring system design and monitoring of pre-excavation, grading, and shoring activities: • Excavation and shoring plans and calculations for temporary shoring walls shall be prepared by a California Registered Civil Engineer experienced in the design and construction of shoring systems and hired under the excavation subcontractor. The shoring systems shall be selected and designed in accordance with all current code requirements, industry best practices, and the recommendations of the Project Geotechnical Engineer. Maximum allowable lateral deflections for the project site are to be developed by the Geotechnical Engineer in consideration of adjacent structures, property, and public rights-of-way. These deflection limits shall be prepared in consideration of protecting adjacent historic resources. The shoring engineer shall produce a shoring design, incorporating tie-backs, soldier piles, walers, or other means of reinforcement, that is of sufficient capacity and stiffness to meet or exceed the strength and deflection requirements. Calculations shall be prepared by the shoring engineer showing the anticipated lateral deflection of the shoring system and its components and demonstrating that these deflections are within the allowable limits. Where tie-back anchors shall extend across property lines or encroach into the public rights-of-way, appropriate notification and approval procedures shall be followed. The final excavation and shoring plans shall include all appropriate details, material specifications, testing and special inspection requirements and shall be reviewed by the Geotechnical Engineer for conformance with the design intent and submitted to the Los Angeles Department of Building and Safety (LADBS) for review and approval during the grading permit application submission. The Geotechnical Engineer shall provide on-site observation during the excavation and shoring work. • The general contractor shall hire a California Registered Professional Engineer or California Professional Land Surveyor to prepare an Adjacent Structures Construction Monitoring Plan, subject to review and approval by LADBS, prior to initiation of any excavation, grading, or shoring activities to ensure the protection of adjacent historic resources from damage due to settlement during construction and excavation. The Adjacent Structures Construction Monitoring Plan shall be carried out by a	the relevant Secretary of the Interior's Professional Standards, for review and approval by the City of Los Angeles. The shoring plan will ensure the protection of the 1936 church building on the Project Site, as well as the potential historical resources adjacent to the Project Site at 3109 W. 6th Street and 523 S. Westmoreland Avenue, during construction.

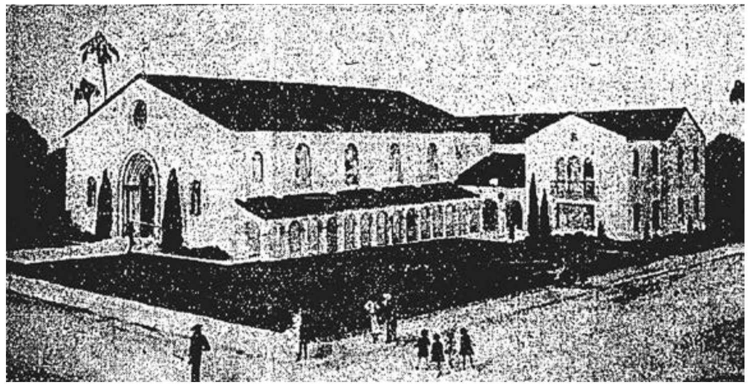
California Professional Land Surveyor and establish survey monuments and document and record through any necessary means, including video, photography, survey, etc. the initial positions of adjacent structures, sidewalks, buildings, utilities, facades, cracks, etc. to form a baseline for determining settlement or deformation. Upon installation of soldier piles, survey monuments shall be affixed to the tops of representative piles so that deflection can be measured. The shored excavation and adjacent structures, sidewalks, buildings, utilities, facades, cracks, etc. shall be visually inspected each day. Survey monuments shall be measured at critical stages of dewatering, excavation, shoring, and construction but shall not occur less frequently than once every 30 days. Reports shall be prepared by the California Professional Land Surveyor documenting the movement monitoring results. • Appropriate parties shall be notified immediately, and corrective steps shall be identified and implemented if movement exceeds predetermined thresholds, calculated amounts, or if new cracks or distress are observed in adjacent structures, sidewalks, buildings, utilities, facades, etc. In the event that settlement due to excavation or construction activity causes damage requiring touch-ups or repairs to the finishes of adjacent historic buildings, that work shall be performed in consultation with a qualified preservation consultant and in accordance with the California Historical Building Code and the Secretary's Standards, as appropriate. Foundation systems are to be designed in accordance with all applicable loading requirements, including seismic, wind, settlement, and hydrostatic loads, as determined by the California Building Code and in accordance with the recommendations provided by the Geotechnical Engineer.	
4.4-1(j) Structural Construction Monitoring If required under the mitigation plan in the historical resources evaluation prepared under MM 4.4-l(a), comply with the following measure. For developments in which excavation and shoring have the potential to damage a historical resource in close proximity to the project site, construction monitoring shall be implemented to minimize damage to nearby historical resources. The construction monitoring shall be performed by a licensed structural engineer with at least five years of demonstrated experience in rehabilitating historic buildings of similar size. A survey of the existing foundations and other structural aspects of historical resources in close proximity to the site shall be conducted to establish baseline conditions and	The Current Project satisfies MM 4.4-1(j) as part of the shoring plan provided under MM 4.4-1(i), per MM Noise-7.

provide a shoring design to protect the historical resources from potential damage. The survey shall take place prior to any construction activities. Pot holing or other destructive testing of the below grade conditions on the development site and immediately adjacent to the nearby historical resources may be necessary to establish baseline conditions and prepare the shoring design. A construction monitor shall submit to OHR a pre-construction survey that establishes baseline conditions to be monitored during construction, prior to issuance of any building permit for the development. The monitoring process shall include a meeting with the project contractor prior to the demolition and/or excavation activities to discuss minimizing damage to historical resources in close proximity.	

Conclusion

This Addendum has evaluated the Current Project against the Approved Project and the Modified Project to identify potential impacts to historical resources on the Project Site and in the vicinity, and for compliance with the Cultural Resource Mitigation Measures adopted in the Mitigation Monitoring Program (MMP) of the Citywide Housing Element 2021-2029 and Safety Element Updates Final Environmental Impact Report (City of Los Angeles, October 2021).

The 2019 Historical Resources Technical Report for the Approved Project determined that, with the implementation of the recommended mitigation measure to provide a shoring plan to ensure the protection of the adjacent historical resources, the Approved Project would not result in significant adverse impacts as defined by CEQA to historical resources on the Project Site or in the Project vicinity. The 2020 Addendum determined that, with implementation of the same mitigation measure, the Modified Project would not result in significant adverse impacts to historical resources on the Project Site or in the Project vicinity. This Addendum has determined that, because the scope of the Current Project has been substantially reduced compared to that of the Modified Project, any potential impacts to historical resources resulting from the Current Project would be correspondingly reduced. This Addendum has also determined that the Current Project complies with the applicable Cultural Resources Mitigation Measures in the Citywide Housing Element Mitigation Monitoring Program. Therefore, with the implementation of the recommended mitigation measure, the Current Project will not result in significant adverse impacts as defined by CEQA to historical resources on the Project Site or in the immediate Project vicinity.



HISTORICAL RESOURCE ASSESSMENT REPORT

550 S. Shatto Place, Los Angeles
Revised April 25, 2019

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HISTORIC RESOURCE ASSESSMENT REPORT

550 S. Shatto Place, Los Angeles

HISTORIC RESOURCES GROUP

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1.0 EXECUTIVE SUMMARY

The Applicant is proposing a project (the "Project") on the property located at 550 S. Shatto Place in the City of Los Angeles (the "Project Site"). The purpose of this report is to determine if historical resources as defined by the California Environmental Quality Act (CEQA)[1] are present on or adjacent to the Project Site and, if so, to identify potential impacts to historical resources by the proposed Project. This report is intended to inform environmental review of the proposed Project.

The 1936 church building on the Project Site was identified by SurveyLA, the citywide historic resources survey overseen by the City of Los Angeles' Office of Historic Resources, as appearing to be eligible through survey evaluation for listing in the National Register of Historic Places, the California Register of Historical Resources, and as a local Historic-Cultural Monument. It was evaluated as significant under the context "Architecture and Engineering, 1850-1980," and the theme "Mediterranean and Indigenous Revival Architecture, 1887-1952" as an "excellent example of Spanish Colonial Revival institutional architecture." Therefore, the church building is treated as a historical resource as defined by CEQA for purposes of this report.

There are two Mid-century Modern buildings (constructed in 1953 and 1964) on the Project Site that were not identified as significant by SurveyLA. This report evaluates the two Mid-century buildings for potential historical significance, based on an observation of existing conditions on the Project Site, primary and secondary source research related to the history of the property, review of the relevant historic contexts, and an analysis under the eligibility criteria and integrity thresholds for listing in the National Register of Historic Places, the California Register of Historical Resources, and as a City of Los Angeles Historic-Cultural Monument. A site visit was conducted on December 13, 2017. As a result of this analysis, this report confirms the SurveyLA finding that the two post-World War II buildings on the Project Site are not significant. Therefore, they are not considered historical resources for purposes of CEQA.

In addition, there are two properties in the Project vicinity at 3109 W. 6th Street and 523 S. Westmoreland Avenue that were identified as potential historical resources by SurveyLA. 3109 W. 6th Street was identified as eligible for the California Register as a "rare intact example of early commercial development located along a former streetcar line in the Wilshire area." 523 S. Westmoreland Avenue was identified as eligible for listing in the National Register as an "excellent example of a 1920s brick apartment

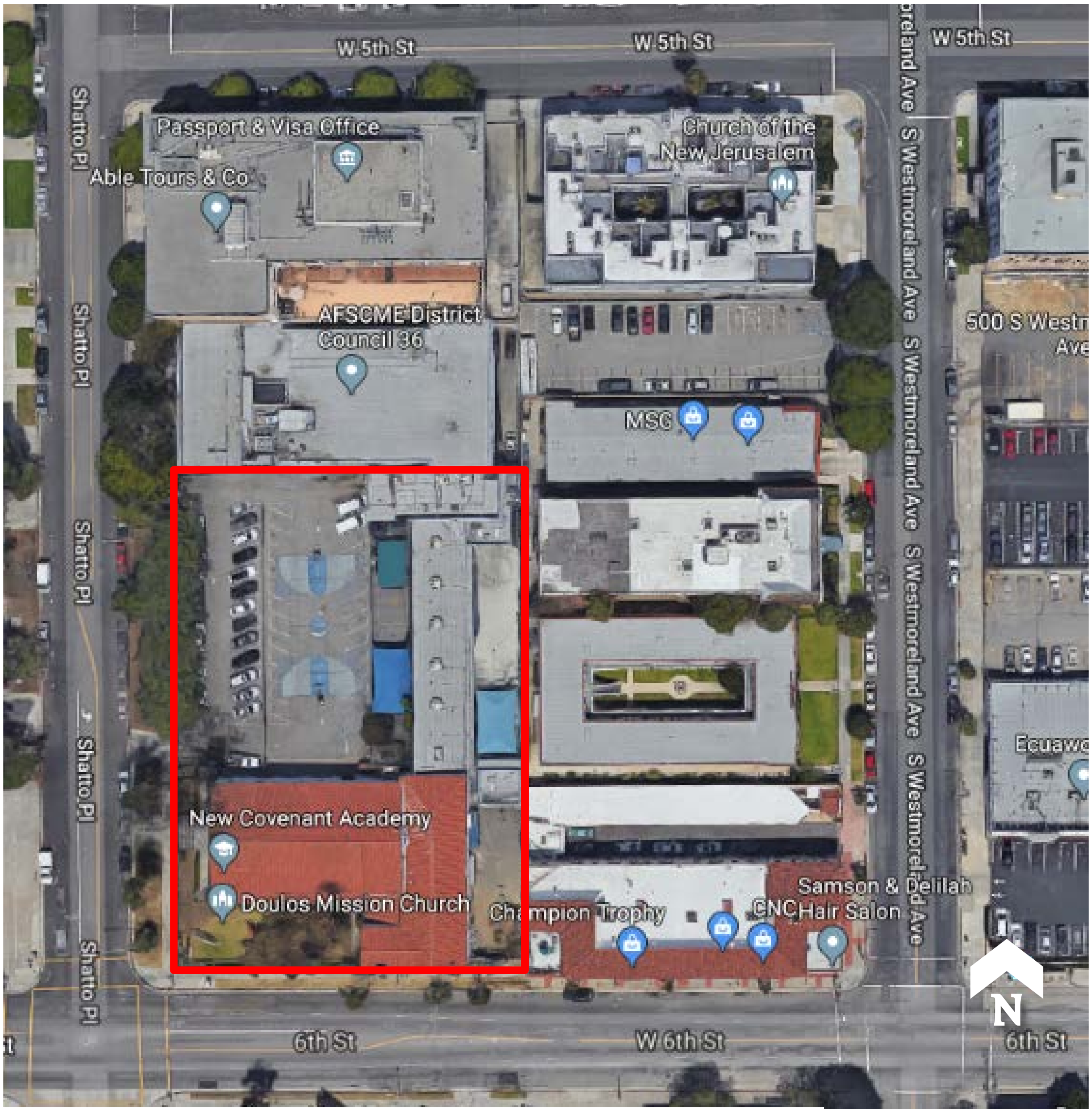
[1] California PRC, Section 21084.1.

house in the Wilshire area, exhibiting the essential characteristics of the type." Therefore, this report evaluates potential indirect impacts to these resources.

As a result of this analysis, with the implementation of the recommended mitigation measure, the Project will not result in significant adverse impacts to potential historical resources on the Project Site or in the immediate Project vicinity as defined by CEQA.

2.0 PROJECT LOCATION

The Project Site is a rectangular parcel located at 522, 530, and 550 S. Shatto Place (also known as 3119 W. 6th Street), within the Wilshire Community Plan Area ("CPA") of Los Angeles. It is composed of three (3) lots with the single Assessor Parcel Number (APN) 5077-004-033. The Project Site is split-zoned C2-1 in the southerly portion of the Project Site and CR-1 in the northerly portion of the Project Site. The Project Site maintains a General Plan Land Use designation of Community Commercial. A site map is included in Figure 1.



Project Site outlined in red.

TF Shatto LP (the "Applicant") proposes to construct an approximately 222,944 square foot mixed-use high-rise building containing a maximum of 256 residential units (252 apartments and four (4) townhomes), and 2,507 square feet of office uses. Additionally, the Applicant would repurpose the existing church building that contains a school and convert it to restaurant uses. Collectively, the new mixed-use tower and repurposing of the former First English Evangelical Lutheran Church constitute the Project (the "Project"). The Project would achieve a maximum height of 341 feet (31 stories, plus mechanical equipment and rooftop appurtenances). Although no parking is required for the residential uses within the Project, per TOC Tier 4 incentives, 329 parking spaces (31 for the commercial uses and 298 for the residential uses) are proposed to be located within four subterranean levels. Bicycle parking would be provided consistent with the requirements of the Los Angeles Municipal Code (LAMC), with approximately 158 short- and long-term spaces provided on-site.

Along with the proposed residential units, the Project would provide neighborhood serving commercial uses within the existing church structure to be repurposed as restaurant. Office space is proposed below the new townhouse units in front of the new tower, which would have a subterranean connection to the repurposed church building. Vehicle access (ingress/egress) would be provided from one entrance along Shatto Place, located approximately midway along the westerly property line. An on-site loading area is also accessible via this entrance, located adjacent to the subterranean parking entrance. The ground floor level of the tower features four (4) office spaces, five (5) parking stalls, and the residential lobby area and office. Level 2 contains outdoor and indoor amenity spaces, along with the proposed townhouses. Apartment units are proposed to be located on levels 3 through 27, with penthouse apartments on levels 28 and 29. Levels 30 and 31 feature additional amenity areas, including a pool. Above Level 31 would be one level containing mechanical equipment.

The Applicant proposes the merger and re-subdivision of the site into a single ground lot and four airspace lots. The proposed uses within each airspace lot would be the following: Airspace lot 2 would contain the four levels of parking. Airspace lot 3 would contain the restaurant space. Airspace lot 4 would contain the office space along with residential uses. Airspace lot 5 would contain the residential units.

At the pedestrian level, the Project would enhance the streetscape and walkability by providing sidewalks with parkway space along Shatto Place and maintaining the existing sidewalk on 6th Street. The proposed 12,800 square feet of restaurant uses within the repurposed church structure, as well as the outdoor seating area, would attract pedestrian activity and help to activate the streets in the surrounding area. Additionally, the office uses along Shatto Pl. referenced above would further enhance the connection between the Project and the street.

Adaptive Re-use of First English Evangelical Lutheran Church

The Project will rehabilitate the former First English Evangelical Lutheran Church building for new use as restaurant space. The rehabilitation would include the addition of an elevator and small lobby on the north façade, to provide access to the second floor; the addition of a new access ramp leading from the site on Shatto Place to new accessible entrance/egress doors on the north façade; the addition of wide bi-folding glass doors between the buttresses on the south façade, to open the former sanctuary to the arcade and new dining patio; replacement of the existing paneled wood doors at the main entrance with new glass doors (the original doors will be stored on site); replacement of the existing stained glass with new stained glass in a new pattern, within the existing window sash; the addition of two new windows at the second story on the south façade; the addition of two new windows and a storefront opening on the east façade; the replacement of two pairs of wood doors on the east façade with glass doors; the addition of two skylights on the east side of the roof; and the addition of two skylights on the north side of the roof. The conversion of the former church for restaurant tenants also requires the addition of mechanical equipment on the east façade; and the addition of intake and exhaust vents on the north and east façades.

The Project will also add a gateway at the southeast corner of the Church building, along 6th Street. The gateway will be constructed of metal and glass, and will include a stained-glass screen that wraps the southeast corner of the Church building at the second story.

4.0 CURRENT SETTING

The property at 550 S. Shatto Place contains a church building constructed in 1936 for the First English Evangelical Lutheran Church, occupying lot 10 of the Shatto Place Tract; two school buildings constructed in 1953 and 1964; and restroom and storage facilities constructed in 2004. The property is currently occupied by the New Covenant Academy. Today the property comprises lots 10, 11, and 12 of the Shatto Place Tract.

The property is flanked to the north by commercial buildings ranging in height from four to six stories; and to the east by multi-family residential and mixed-use buildings ranging in height from two to four stories. The property faces a surface parking lot and a multi-story parking garage directly across Shatto Place; and commercial and institutional buildings, ranging in height from one to three stories, across 6th Street.

The 1936 church building was identified as historically significant by SurveyLA, and therefore is not re-evaluated in this report. The two Mid-century Modern buildings on the property at 550 S. Shatto Place were evaluated using integrity thresholds and eligibility criteria for listing in the National Register of Historic Places, the California Register of Historical Resources, and as a City of Los Angeles Historic-Cultural Monument. The field methods and analysis are based on guidance from the National Park Service, the California Office of Historic Preservation, and the City of Los Angeles Office of Historic Resources for evaluating potential historic resources; and an identification of physical features and historic integrity ascertained during the site visit and through building records.

This report was prepared using sources related to the history and development of 550 S. Shatto Place. The following sources were consulted:

- Building permits
- Sanborn Fire Insurance maps
- Historic newspaper articles
- Other primary and secondary sources relevant to the history of the site
- SurveyLA Historic Context Statement, Wilshire Community Plan Area Survey Report, and survey findings

Research, field inspection, and analysis were performed by Christine Lazzaretto, Managing Principal; John LoCascio, AIA, Principal; and Molly Iker-Johnson, Associate Architectural Historian. All meet the Secretary of the Interior's Professional Qualifications Standards in History and Architectural History.

6.1 Historical Resources under CEQA

CEQA requires that environmental protection be given significant consideration in the decision-making process. Historical resources are included under environmental protection. Thus, any project or action which constitutes a substantial adverse change to a historical resource also has a significant effect on the environment pursuant to the State CEQA Guidelines.

When the California Register of Historical Resources was established in 1992, the Legislature amended CEQA to clarify which cultural resources are significant, as well as which project impacts are considered to be significantly adverse. A "substantial adverse change" means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired."[2]

CEQA defines a historical resource as a resource listed in, or determined eligible for listing, in the California Register of Historical Resources. All properties on the California Register are to be considered under CEQA. However, because a property does not appear on the California Register does not mean it is not significant and therefore exempt from CEQA consideration. All resources determined eligible for the California Register are also to be considered under CEQA.

The courts have interpreted CEQA to create three categories of historical resources:

- *Mandatory historical resources* are resources "listed in, or determined to be eligible for listing in, the California Register of Historical Resources."
- *Presumptive historical resources* are resources "included in a local register of historical resources, as defined in subdivision (k) of Section 5020.1, or deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1" of the Public Resources Code, unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant.
- *Discretionary historical resources* are those resources that are not listed but determined to be eligible under the criteria for the California Register of Historical Resources.[3]

[2] State CEQA Guidelines Section 15064.5(b)(1).
[3] *League for the Protection of Oakland's Architectural and Historic Resources vs. City of Oakland,* 52 Cal. App. 4th 896, 906-7 (1997).

To simplify the first three definitions provided in the CEQA statute, an historical resource is a resource that is:

- Listed in the California Register of Historical Resources (California Register);
- Determined eligible for the California Register by the State Historical Resources Commission; or
- Included in a local register of historical resources.

Section 15064.5 of the CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3) supplements the statute by providing two additional definitions of historical resources, which may be simplified in the following manner. An historical resource is a resource that is:

- Identified as significant in an historical resource survey meeting the requirements of Public Resources Code 5024.1 (g);
- Determined by a Lead Agency to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Generally, this category includes resources that meet the criteria for listing on the California Register (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852).

The fact that a resource is not listed in, or determined eligible for listing in, the California Register, not included in a local register of historical resources, or not deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1, does not preclude a lead agency from determining that the resource may be an "historical resource" for purposes of CEQA.

Properties formally determined eligible for listing in the National Register of Historic Places are automatically listed in the California Register. Properties designated by local municipalities can also be considered historical resources. A review of properties that are potentially affected by a project for historic eligibility is also required under CEQA.

6.2 Historic Designations

Historic resources may be designated at the federal, state, and local levels. Current landmark designations available for properties located in Los Angeles include: listing in the National Register of Historic Places, the California Register of Historical Resources, and as City of Los Angeles Historic-Cultural Monuments. While all designation programs place emphasis on architectural character, they also use basic criteria relating to a property's place in important events or patterns of development, association with important personages, and architectural significance.

National Register of Historic Places

The National Register of Historic Places is an authoritative guide to be used by Federal, State, and local governments, private groups and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment.[4] The National Park Service administers the National Register program. Listing in the National Register assists in preservation of historic properties in several ways including: recognition that a property is of significance to the nation, the state, or the community; consideration in the planning for federal or federally assisted projects; eligibility for federal tax benefits; and qualification for Federal assistance for historic preservation, when funds are available.

To be eligible for listing and/or listed in the National Register, a resource must possess significance in American history and culture, architecture, or archaeology. Listing in the National Register is primarily honorary and does not in and of itself provide protection of a historic resource. The primary effect of listing in the National Register on private owners of historic buildings is the availability of financial and tax incentives. In addition, for projects that receive Federal funding, a clearance process must be completed in accordance with Section 106 of the National Historic Preservation Act. Furthermore, state and local regulations may apply to properties listed in the National Register.

The criteria for listing in the National Register follow established guidelines for determining the significance of properties. The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic

[4] 36CFR60, Section 60.2.

values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded, or may be likely to yield, information important in prehistory or history.[5]

Criteria Consideration A: Religious Properties

A religious property is eligible if it derives its primary significance from architectural or artistic distinction or historical importance.

A religious property requires justification on architectural, artistic, or historic grounds to avoid any appearance of judgment by government about the validity of any religion or belief. Historic significance for a religious property cannot be established on the merits of a religious doctrine, but rather, for architectural or artistic values or for important historic or cultural forces that the property represents. A religious property's significance under Criterion A, B, C, or D must be judged in purely secular terms. A religious group may, in some cases, be considered a cultural group whose activities are significant in areas broader than religious history.[6]

Integrity

In addition to meeting any or all of the National Register designation criteria listed above, properties nominated must also possess historic *integrity*. Historic integrity is the ability of a property to convey its significance and is defined as "the authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic period."[7]

The National Register recognizes seven aspects or qualities that comprise integrity: location, design, setting, materials, workmanship, feeling, and association. These qualities are defined as follows:

- *Location* is the place where the historic property was constructed or the place where the historic event took place.
- *Design* is the combination of elements that create the form, plan, space, structure, and style of a property.

[5] 36CFR60, Section 60.3. Criterion D addresses potential archaeological resources; therefore, it is not analyzed as part of this report.
[6] *National Register Bulletin 15*.
[7] U.S. Department of the Interior, "National Register Bulletin 16: How to Complete the National Register Registration Form" (Washington, D.C.: National Park Service, 1997).

- *Setting* is the physical environment of a historic property.
- *Materials* are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
- *Workmanship* is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
- *Feeling* is a property's expression of the aesthetic or historic sense of a particular period of time.
- *Association* is the direct link between an important historic event or person and a historic property.[8]

California Register of Historical Resources

The California Register is an authoritative guide in California used by State and local agencies, private groups, and citizens to identify the State's historic resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change.[9]

The criteria for eligibility for listing in the California Register are based upon National Register criteria. These criteria are:

1. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.
2. Associated with the lives of persons important to local, California or national history.
3. Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values.
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.[10]

[8] U.S. Department of the Interior, "National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation" (Washington D.C.: National Park Service, 1995).
[9] California PRC, Section 5023.1(a).
[10] Criterion 4 addresses potential archaeological resources; therefore, it is not analyzed as part of this report.

For integrity purposes, resources eligible for listing in the California Register must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. It is possible that resources lacking sufficient integrity for listing in the National Register may still be eligible for the California Register.[11]

City of Los Angeles Historic-Cultural Monuments

The City of Los Angeles Cultural Heritage Ordinance, first enacted in 1962 and updated in 2018, allows for the designation of buildings and sites as individual local landmarks in the City of Los Angeles. These landmarks are known as "Historic-Cultural Monuments."

Section 22.171.7 of Article 1, Chapter 9, Division 22 of the City of Los Angeles Administrative Code defines a Historic-Cultural Monument as "any site (including significant trees or other plant life located on the site), building or structure of particular historic or cultural significance to the City of Los Angeles." A proposed Monument may be designated by the City Council upon the recommendation of the Cultural Heritage Commission if it meets at least one of the following criteria:

1. Is identified with important events of national, state, or local history, or exemplifies significant contributions to the broad cultural, economic or social history of the nation, state, city or community;

2. Is associated with the lives of historic personages important to national, state, city, or local history; or

3. Embodies the distinctive characteristics of a style, type, period, or method of construction; or represents a notable work of a master designer, builder, or architect whose individual genius influenced his or her age.

Designation as a Historic-Cultural Monument is "reserved for those resources that have a special aesthetic, architectural, or engineering interest or value of a historic nature."[12] For integrity purposes, resources eligible for local designation should retain enough of their historic character or appearance to convey the reasons for their significance.

[11] State of California Department of Parks and Recreation, "California Office of Historic Preservation Technical Assistance Series #6: California Register and National Register: A Comparison," Sacramento, CA: Office of Historic Preservation, 2011.

[12] Los Angeles Department of City Planning, "Historic-Cultural Monuments: What Makes a Resource Historically Significant?," Los Angeles: Office of Historic Resources, https://preservation.lacity.org/commission/what-makes-resource-historically-significant (accessed August 2018).

The 1936 church building at 550 S. Shatto Place was assigned California Historical Resources Status Codes 3S/3CS/5S3 (appears eligible for the National Register, California Register, and locally as an individual property through survey evaluation) during SurveyLA, the citywide historic resources survey overseen by the City's Office of Historic Resources. The property is located in the Wilshire Community Plan Area ("CPA"), which was surveyed in 2014. It was identified as eligible under the context "Architecture and Engineering, 1850-1980," and the theme "Mediterranean and Indigenous Revival Architecture, 1887-1952." It is not listed in the California Historic Resources Inventory (HRI).[13]

None of the other buildings on the property have been identified in previous surveys as potential historic resources, and none are listed in the HRI.

A records search was conducted on October 9, 2018 at the California Historical Resources Information System (CHRIS) South Central Coastal Information Center (SCCIC) housed at the California State University, Fullerton. The records search included a review of all previous cultural resource studies and previously documented historic or architectural resources on the Project Site. No information related to the Project Site was located as part of the records search. The formal response is included in Appendix D.

8.0 HISTORY AND DESCRIPTION OF THE SURROUNDING AREA

Wilshire Community Plan Area

550 S. Shatto Pl. is located in the Wilshire neighborhood of the City of Los Angeles. In 1887, Henry Gaylord Wilshire, an entrepreneur from Ohio, purchased 35 acres west of present-day MacArthur Park in partnership with his brother, William.[14] They subdivided the land in 1895, envisioning a luxurious subdivision anchored by a wide, graveled avenue (present-day Wilshire Boulevard) that would connect present-day MacArthur and Lafayette Parks, and arranged a deal to build an intersecting boulevard (present-day Lafayette Park Place) if the City donated the land. These streets became the heart of a subdivision with generous lots, palm trees, and views of MacArthur Park and downtown Los Angeles.[15]

[13] California Historical Resources Inventory, August 15, 2011.
[14] History of the Wilshire neighborhood adapted from Architectural Resources Group, *Historic Resources Survey Report: Wilshire Community Plan Area*, January 2015.
[15] In 1897, Wilshire Boulevard was extended to meet Vermont Avenue as it became Los Angeles' new western boundary; the road angled away from its original alignment with the downtown street grid to instead orient toward the cardinal directions. The final gap in the thoroughfare was eliminated in 1934, when Wilshire was pushed through MacArthur Park.

The Wilshire neighborhood developed steadily throughout the 1910s and 1920s, with large apartment buildings, resort hotels, and commercial buildings rising throughout the district. In the late 1920s, twenty-five blocks of Wilshire from MacArthur Park to Western Avenue were rezoned for commercial use, spurring a new era of rapid development in the eastern part of the Wilshire district. The neighborhood's commercial identity soon became one of affluence, newness, and convenience, in contrast to the older and more established downtown commercial district. The most potent symbol of the Wilshire district's glamour was the 1929 Bullock's Wilshire department store, one of the first businesses in Los Angeles designed to cater to customers arriving by car.

Large parking lots, service stations, automobile dealerships, drive-up markets, and drive-up coffee shops soon sprang up throughout the district. The neighborhood became known as Los Angeles' playground: recreational facilities were established throughout the district, and local dining and dancing institutions like the Brown Derby lured people to the Wilshire neighborhood.

Institutional development occurred early on along Wilshire Boulevard. High-profile institutional buildings developed alongside commercial buildings on the boulevard in the 1920s and 1930s. Religious organizations built new, massive houses of worship, such as the Wilshire Boulevard Temple and Immanuel Presbyterian Church, to serve local congregations. Smaller community organizations, financial institutions, and religious institutions established themselves along other commercial corridors.

The Wilshire district saw little commercial development during World War II. In the postwar years, however, Wilshire Boulevard's luxurious department stores, clubs, and restaurants were joined by office buildings housing high-profile corporations, earning Wilshire a new reputation as a business center. The 1957 lifting of the city's 150-foot height limit restriction led to towering skyscrapers, bringing a fundamental change to the built environment in the area. The postwar period saw a shift in the area's architectural identity, with many commercial and institutional buildings exhibiting sleek Modern styles rather than the more extravagant styles of previous decades.

Wilshire's reputation as a world-class business center continued through the 1970s, with dozens of new high-rise corporate buildings constructed in the neighborhood. However, it began to wane in the 1980s as corporations moved to cheaper and less congested San Fernando Valley and West Los Angeles neighborhoods. The district's prospects looked bleak until an infusion of capital from Korean investors arrived, transforming a portion of the Wilshire district into present-day Koreatown.

Koreatown[16]

Koreatown comprises a portion of the Wilshire neighborhood. This area of the city became known as Koreatown between 1970 and 1985, when Korean Americans and Latino Americans purchased and reused existing commercial buildings in the area around Olympic Boulevard and 8th Street. This influx of Korean commercial enterprise in the area transformed it into the center of a vibrant Korean American community.[17] Present-day Koreatown is roughly bounded by Beverly Boulevard on the north, Wilton Place and Crenshaw Boulevard on the west, Olympic Boulevard on the south, and Virgil and Westmoreland Avenues on the east.

In 1965, U.S. immigration policy underwent a substantial overhaul with the passage of the Immigration and Nationality Act (commonly known as the Hart-Celler Act), which effectively ended discriminatory immigration restrictions.[18] By rescinding policies that previously favored European immigration, a substantial influx of immigrants arrived from Latin America and Asia over the following years. At first, emigrants from Korea numbered several thousand, more than doubling the approximately 1,500 Koreans arriving each year prior to 1965.[19] However, by the early 1970s the numbers increased dramatically, with over 30,000 Korean immigrants entering the U.S. in 1976 alone.[20] By 1979, Los Angeles had the largest population of Koreans outside of Korea. This population, estimated at approximately 170,000, was largely concentrated in the Koreatown area.

As with other immigrant groups, recently-arrived Koreans gravitated towards established ethnic communities. This was especially true in Los Angeles, where Korean American cultural and economic institutions were concentrated in the old Koreatown neighborhood, and nearby commercial and residential rental rates were relatively low. Postwar suburban development drew many of the white residents from urban Los Angeles in a "white flight" migration that left the central areas under-occupied. At the

[16] Architectural Resources Group, Inc., *SurveyLA: Historic Resources Survey Report*, 6. This area was not known as Koreatown until the 1970s and 1980s. During its early development, the neighborhood was part of the Wilshire District. It should be noted that many of the smaller neighborhoods within the area now known widely as Koreatown do not identify themselves as "Koreatown."

[17] Architectural Resources Group, Inc., *SurveyLA: Historic Resources Survey Report*, 6.

[18] Portions of this context are adapted from City of Los Angeles, Department of City Planning, "Context: Korean Americans in Los Angeles," in *SurveyLA: Los Angeles Historic Resources Survey Project, Draft Historic Context Statement,* September 2017.

[19] Hak-Hoon Kim, "Residential Patterns and Mobility of Koreans in Los Angeles County," (Master's thesis, California State University, Los Angeles, 1986), 10.

[20] Pyong Gap Min, "Korean Immigrants in Los Angeles," *California Immigrants in World Perspective: The Conference Papers* (Institute for Social Science Research, University of California, Los Angeles: April 1990), 3.

same time, the opening of the Santa Monica Freeway (Interstate 10) in the mid-1960s replaced Olympic Boulevard as the main east-west connector and resulted in decreased traffic, higher vacancies, and more affordable commercial rents along the boulevard.[21] This pre-existing ethnic community and supporting institutions combined with the relative affordability of nearby areas and the rapid influx of immigrants with the capital to start commercial endeavors effectively created one of the highest concentrations of Korean people and institutions in the United States in present-day Koreatown.[22]

The church at 550 S. Shatto Place has specifically been associated with the Korean community only since 2008, when New Life Oasis Church moved into the sanctuary. The association continued in 2013 when New Covenant Academy moved its campus to the property. New Covenant Academy was founded by Dr. Jason Song and Mrs. Kara Kim-Song in 1999.

9.0 DESCRIPTION OF IDENTIFIED AND EVALUATED RESOURCES

550 S. Shatto Place is located on the east side of S. Shatto Place, at the northeast corner of the intersection of S. Shatto Place and W. 6th Street in what is now known as the Koreatown neighborhood of the City of Los Angeles. The property is flanked to the east by a commercial building and multi-family residences, and to the north by institutional buildings. The flat parcel is at a slightly higher elevation than the adjacent street and contains a one-story church (with a mezzanine level) and two, two-story school buildings. All the buildings are set back from the street by a sloped landscaped area with mature trees and a metal fence. There is a surface parking lot and playground at the center of the parcel.

The 1936 church building is primarily Spanish Colonial Revival in style, with some Romanesque Revival elements. It has an irregular plan, horizontal massing, and asymmetrical composition. The sanctuary has a front gable roof; the two-story portion comprising the Sunday school, has a combination gable and hipped roof. There is a shed roofed arcade running the length of the south façade of the church. The roofs have tight eaves and clay barrel tile roofing. The exterior walls are clad in cement plaster. There are buttresses along the north and south façades of the church.

Fenestration consists primarily of divided-light steel-sash fixed and casement windows, and round-arched stained-glass windows. The Romanesque Revival-style coupled windows flanking the primary entrance have cast stone colonettes and surrounds. Several windows have wrought iron security bars. The Romanesque Revival-style

[21] Kim, "Residential Patterns," 56-57.
[22] Diana Sherman, "Largest Outside Korea: Korean Town's Extent, Population Grown Daily," *Los Angeles Times*, February 25, 1979.

primary entrance is located in the center of the west façade and consists of a pair of paneled wood doors recessed within a cast stone portal with concentric decorative archivolts and jamb columns. The doors are accessed from the sidewalk by a concrete stair.

The two additions that comprise the classroom buildings are Mid-century Modern in style, with rectilinear plans, horizontal massing, flat roofs, asymmetrical composition, and exterior walls veneered in cement plaster. Fenestration consists primarily of double-hung wood sash windows and horizontal sliding vinyl windows. There is a small balcony with a decorative metal railing on the second story of the west façade of the school building.

10.0 PROPERTY HISTORY

Construction History

The church at 550 S. Shatto Place was constructed in 1936 for the First English Evangelical Lutheran Church. There was no architect associated with the project; the structural engineer was W.E. Wilson.[23] At the time of its construction, the one-story (with mezzanine) sanctuary had a listed seating capacity of 560. The two-story portion of the building housed the Sunday school, a 225-person auditorium, a pastor's study, and club rooms.[24] According to the 1950 Sanborn Fire Insurance map documenting the street, the church occupied one parcel at the northeast corner of Shatto Place and 6th Street, with two, two-story single-family residences with detached rear garages occupying the parcels at 522 and 530 Shatto Place. These residences were utilized by the church as a parish house and parsonage.[25]

In 1953, a one-story, six-room school building, designed by architect J.A. Murrey, AIA, was added immediately adjacent to the north façade of the church building, extending north on the property behind the parish house and parsonage.[26] The following year, toilet facilities, also designed by Murrey, were added to the school building.[27] Between 1954 and 1964, the parsonage and parish house were demolished to provide space for a surface parking lot. In 1964, Phillip M. Conkle designed a two-story school building, which was added to the property immediately to the north of the 1953 school building. In 2004, the existing toilet facilities were demolished, and replaced with two, two-story restroom and storage buildings.

[23] City of Los Angeles building permit 18135, July 20, 1936.
[24] "Important Property Purchase Announced," *Los Angeles Times*, August 2, 1936.
[25] City of Los Angeles building permit 51422, January 27, 1953.
[26] City of Los Angeles building permit 51421, January 27, 1953.
[27] City of Los Angeles building permit 77160, January 4, 1964.

Alterations

There have been few exterior alterations to the 1936 church building at 550 S. Shatto Place. Between 2015 and 2016, the rose window above the primary door was covered with plywood, as was the tympanum above the primary entry doors. It is unknown whether the original features remain in place. The building's interiors have been altered by the addition of suspended acoustical tile ceilings in the two-story wing, and the conversion of the former sanctuary to an indoor basketball court. The sanctuary retains decorative wood trusses and a small altar, but the building's interiors are not architecturally distinctive or highly detailed.

There have been several additions to the site over time, which are identified in Figure 2. In 1953, a one-story, six-room classroom building was added immediately adjacent to the north façade of the 1936 church building. In 1964, a second two-story classroom building was added immediately north of the 1953 classroom building. There is a restroom and storage addition, completed in 2004, to the east of the 1953 and 1964 classroom buildings, and a freestanding restroom and storage building to the east, completed in 2004. Between 1954 and 1964, the parsonage and parish house on the property were demolished to provide space for a surface parking lot.

Signage for the New Covenant Academy, which currently occupies the building, has been added to the west façade of the church. In addition to the school buildings added in 1953 and 1964, three small shed-like additions were added to the north façade of the church building at an unknown date.

Legend

- 1936
- 1953
- 1964
- 2004
- Property Line

1. Church
2. 1-story Classroom Building
3. 2-story Classroom Building
4. Restroom and storage addition
5. Restroom addition

Site plan, organized by construction date.

Related Architects/Builders

The church at 550 S. Shatto Place was constructed in 1936. There was no architect associated with the project; the structural engineer was W.E. Wilson.[28] Architect J.A. Murrey, AIA designed a one-story, six-room school building and toilet facilities for the campus. Architect Phillip M. Conkle designed a two-story school building for the campus.

Little information is known about the architects who worked at the site, and they are not considered masters.

Spanish Colonial Revival Architecture

The former First English Lutheran Church, constructed in 1936, was designed in the Spanish Colonial Revival architectural style, with some Romanesque Revival elements.

The Spanish Colonial Revival style attained widespread popularity throughout Southern California following the 1915 Panama-California Exposition in San Diego, which was housed in a series of buildings designed by chief architect Bertram Grosvenor Goodhue in the late Baroque Churrigueresque style of Spain and Mexico. The Churrigueresque style, with areas of intricate ornamentation juxtaposed against plain stucco wall surfaces and accented with towers and domes, lent itself to monumental public edifices, churches and exuberant commercial buildings and theaters. For smaller scale buildings, architects often drew inspiration from provincial Spain, particularly the arid southern region of Andalusia, where many young American architects were diverted while World War I prevented their traditional post-graduate "grand tour" of Great Britain, France, Italy, and Germany.

The Spanish Colonial Revival style in Southern California includes creative combinations of plaster, tile, wood, and iron, featuring plaster-clad volumes arranged around patios, low-pitched tile roofs, and a spreading, horizontal orientation. It was a deliberate attempt to develop a "native" California architectural style and romanticize the area's colonial past, though it drew directly from Spanish and other Mediterranean precedents and bore little resemblance to the missions and rustic adobe ranch houses that comprised the state's actual colonial-era buildings.

The popularity of the Spanish Colonial Revival style extended across nearly all property types, including a range of residential, commercial, and institutional buildings, and coincided with Southern California's population boom of the 1920s, with the result that large expanses of Los Angeles and surrounding cities were developed in the style. Some

[28] City of Los Angeles building permit 18135, July 20, 1936.

towns, such as Santa Barbara, even passed ordinances requiring its use in new construction. It shaped the region's expansion for nearly two decades, reaching a high point in 1929 and tapering off through the 1930s as the Great Depression gradually took hold. Like other revival styles, the Spanish Colonial Revival style was often simplified, reduced to its signature elements, or creatively combined with design features of other Mediterranean regions such as Italy, southern France, and North Africa, resulting in a pan-Mediterranean mélange of eclectic variations. It was also sometimes combined, much less frequently, with the emerging Art Deco and Moderne styles.

Romanesque Revival Architecture

The Romanesque Revival style was introduced in the United States in the mid-19th century. The style was championed by Boston architect Henry Hobson Richardson (1838-1886) and became popular for public buildings during the 1880s. Even after Richardson's death in 1886, interest in the style continued to grow, aided by the release of a book on his work, and later pattern books and builders' guides.

Romanesque Revival style buildings are most easily identified by their pronounced rounded arches and stone or brick construction. Most have round towers, squat columns, and decorative plaques with intricate or interlacing patterns. With its strong sense of gravity and permanence, the Romanesque Revival style was especially suited to churches, university buildings, and other public buildings.

Mid-century Modern Architecture

The property contains a two-story school building which abuts the original 1936 former First English Lutheran Church building. What now comprises the school building was constructed in 1953 and 1964, and generally reflects elements of the Mid-century Modern architectural style.

Mid-century Modern is a term used to describe the post-World War II iteration of the International Style in both residential and commercial design. The International Style was characterized by geometric forms, smooth wall surfaces, and an absence of exterior decoration. Mid-century Modern represents the adaptation of these elements to the local climate and topography, as well as to the postwar need for efficiently-built, moderately-priced homes. In Southern California, this often meant the use of wood post-and-beam construction. Mid-century Modernism is often characterized by a clear expression of structure and materials, large expanses of glass, and open interior plans.

The roots of the style can be traced to early Modernists like Richard Neutra and Rudolph Schindler, whose local work inspired "second generation" Modern architects like Gregory Ain, Craig Ellwood, Harwell Hamilton Harris, Pierre Koenig, Raphael Soriano, and many more. These post-war architects developed an indigenous

Modernism that was born from the International Style but matured into a fundamentally regional style, fostered in part by *Art and Architecture* magazine's pivotal Case Study Program (1945-1966). The style gained popularity because its use of standardized, prefabricated materials permitted quick and economical construction. It became the predominant architectural style in the postwar years and is represented in almost every property type, from single-family residences to commercial buildings to gas stations.

According to the eligibility standards developed for SurveyLA, the character-defining features of Mid-century Modern institutional architecture include:[29]

- Direct expression of the structural system, often wood or steel post and beam
- Flat roof, at times with wide overhanging eaves
- Floor-to-ceiling windows, often flush-mounted metal framed
- Horizontal massing
- Simple, geometric volumes
- Unornamented wall surfaces

Ownership/Occupant History: 550 S. Shatto Place

First English Lutheran Church

The First English Lutheran Church was organized in Los Angeles in January 1886. The congregation initially met in a building on the McDonald block of Main Street.[30] However, by May 1887, the congregation had purchased a parcel at 8th and Flower Streets, on which the first sanctuary was constructed, completed in 1890.[31]

In 1926, there was controversy within the congregation as the Lutheran Synod of California charged the pastor, Dr. W.S. Dysinger, with six charges "involving insubordination and other conduct contrary to the synod's regulations."[32] Dysinger was found guilty on five of six counts and given six months to restore harmony in the congregation or to resign. Dysinger refused, causing a schism in the congregation. Dissatisfied members of Dysinger's congregation formed a new church, meeting at the chapel of the California Lutheran Hospital at 1414 S. Hope Street, led by Dr. David R. Huber.[33]

[29] City of Los Angeles, Office of Historic Resources, *Architecture and Engineering, 1850-1980 Eligibility Standards,* 404.
[30] "The First English Lutheran Church," *Los Angeles Times*, May 23, 1887.
[31] "The First English Lutheran Church," *Los Angeles Times*, May 23, 1887; Rev. John Edward Hoick, *The Fruitage of Fifty Years in California: A History of the Evangelical Lutheran Synod of California* (1941), 30.
[32] "Dr. Dysinger Found Guilty," *Los Angeles Times*, April 14, 1926.
[33] "New Pastor in Lutheran Church Row," *Los Angeles Times*, March 26, 1927.

In 1932, after a lengthy conflict over the church building at 8th and Flower Streets, Dysinger's congregation surrendered the church to Huber's congregation. Dysinger's congregation moved to a building at 925 S. Flower Street, conducting services under the name of English Evangelical Lutheran Church.[34]

In 1936, Huber's congregation was forced to vacate the Flower Street location when the Southern California Gas Company purchased the lot at 8th and Flower Streets.[35] The First English Lutheran Church purchased the property at 550 S. Shatto Place, and constructed a new sanctuary, which was in an "L-shape, […] of Mission architectural design."[36] Over time, the church property was expanded through the acquisition of the two parcels to the north, which contained two single-family houses. The residences were used as the parsonage and parish house.[37] Based on historic building permits, the First English Lutheran Church and associated school were located at 550 S. Shatto Place from 1936 until approximately 2008.[38]

New Life Oasis Church

Between approximately 2008 and 2012, New Life Oasis Church occupied the church and school campus. By 2011, New Covenant Academy also operated at the site.[39]

New Covenant Academy

In August 2013, the New Covenant Academy (NCA) purchased the school's present campus on the northeast corner of 6th Street and Shatto Place in Los Angeles.[40]

Use History

550 S. Shatto Pl. was historically constructed as a church; an associated school was added to the site over time. The historic church building and associated school are presently operating as a Christian school serving grades Kindergarten through 12.

34 "Home-Coming Services for Huber and Flock," *Los Angeles Times*, June 4, 1932.
35 "Old Church Site Bought," *Los Angeles Times*, July 30, 1936.
36 "Important Property Purchase Announced," *Los Angeles Times*, August 2, 1936.
37 1930 Sanborn Fire Insurance Map.
38 By March 2008, the building was vacant. City of Los Angeles building permit 18135, July 20, 1936; Google Street View imagery of site; "Former First Lutheran Church & School," LoopNet, March 17, 2008, http://www.loopnet.com/Listing/15616567/3119-W-6th-Street-Los-Angeles-CA/ (accessed December 19, 2017). According to Google Street View imagery from 2009 and 2011, New Life Oasis Church briefly occupied the site.
39 "History of NCA," New Covenant Academy, https://www.e-nca.org/ourhistory (accessed December 18, 2017); and aerial maps available at googlemaps.com. No information was found about New Life Oasis Church.
40 "History of NCA," New Covenant Academy, https://www.e-nca.org/ourhistory (accessed December 18, 2017). Based on Google Street View imagery, New Covenant Academy moved to the site in approximately 2011.

The 1936 church building on the property at 550 S. Shatto Place was identified as eligible for historic designation by SurveyLA; it is therefore not re-evaluated here and is treated as a historical resource as defined by CEQA for purposes of this report. The two Mid-century Modern buildings on the Project Site were not identified as significant by SurveyLA; those buildings are evaluated in this report for potential historical significance using established guidelines and integrity thresholds for evaluating religious properties. Based on guidance from the National Park Service (see National Register Criterion Consideration A, section 6.0, above) "historic significance for a religious property cannot be established on the merits of a religious doctrine, but rather, for architectural or artistic values or for important historic or cultural forces that the property represents."[41] Religious properties must be evaluated in a purely secular context.

SurveyLA Context/Themes & Associated Eligibility Standards

Los Angeles' citywide historic context statement (HCS) provides the framework for identifying and evaluating the city's historic resources. The Office of Historic Resources has been the lead in the development of the HCS as part of SurveyLA.

The 1936 church building at 550 S. Shatto Place was identified as eligible for listing in the National Register of Historic Places, the California Register of Historical Resources, and as a City of Los Angeles Historic-Cultural Monument under the following context and theme by SurveyLA:[42]

Context: Architecture and Engineering, 1850-1980
Theme: Mediterranean and Indigenous Revival Architecture, 1887-1952
Sub-theme: Spanish Colonial Revival, 1915-1942

For a property to be eligible as an example of Spanish Colonial Revival style institutional architecture, it must meet the following eligibility standards:

- Exemplifies the character-defining features of the Spanish Colonial Revival style
- Is an excellent example of its type and/or the work of a significant architect or builder
- Originally designed for institutional uses[43]

[41] *National Register Bulletin 15.*
[42] City of Los Angeles, *SurveyLA: Historic Context Statement Outline*, Revised July 2018.
[43] City of Los Angeles, Office of Historic Resources, *Architecture and Engineering, 1850-1980 Eligibility Standards,* 215.

The school buildings at 550 S. Shatto Place were not identified as potential historical resources by SurveyLA. They are evaluated in this report as examples of Mid-century Modern architecture, corresponding with the following context and theme in SurveyLA:

Context: Architecture and Engineering, 1850-1980
Sub-context: LA Modernism, 1919-1980
Theme: Postwar Modernism, 1946-1976
Sub-theme: Mid-Century Modern, 1945-1970

For a property to be eligible as an example of Mid-century Modern style institutional architecture, it must meet the following eligibility standards:

- Exhibit quality of design through distinctive features
- Retains the essential character defining features of Mid-century Modernism from the period of significance
- Was constructed during the period of significance[44]

[44] City of Los Angeles, Office of Historic Resources, *Architecture and Engineering, 1850-1980 Eligibility Standards,* 476.

The former First English Lutheran Church, constructed in 1936, is treated as a historical resource as defined by CEQA and is not re-evaluated as part of this report. The two school buildings constructed in 1953 and 1964, are evaluated for potential eligibility for listing in the National Register of Historic Places, the California Register of Historical Resources, and as City of Los Angeles Historic-Cultural Monuments.

Criterion A/1/1 **(association with events or patterns of development)**

According to guidance from the National Park Service, in order to be considered eligible for designation for representing a pattern of development:

> "…A property must be associated with one or more events important in the defined historic context. The event or trends, however, must clearly be important within the associated context: settlement, in the case of the town, or development of a maritime economy, in the case of the port city. Moreover, the property must have an important association with the event or historic trends, and it must retain historic integrity…Mere association with historic events or trends is not enough, in and of itself, to qualify under [this criterion]; the property's specific association must be considered important as well."[45]

In addition, under National Register Criteria Consideration A, a religious property requires justification on architectural, artistic, or historic grounds to avoid any appearance of judgment by government about the validity of any religion or belief. Historic significance for a religious property cannot be established on the merits of a religious doctrine, but rather, for architectural or artistic values or for important historic or cultural forces that the property represents.

The former First English Lutheran Church congregation was initially established in Los Angeles in 1886; the Shatto Place property is the third sanctuary constructed for their use. According to Criteria Consideration A, the church building and/or the campus must have significance beyond its association with the Lutheran congregation in order to be eligible for historic designation.

The two classroom buildings were added to the site in 1953 and 1964. As individual examples of institutional development from the postwar period, the classroom buildings do not have an important association with the development patterns in the area, but

[45] National Park Service, *National Register Bulletin: How to Apply the National Register Criteria for Evaluation*, https://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_6.htm.

rather generally reflect post-World War II expansion of institutions to serve the growing population in Southern California.

550 S. Shatto Place is located in what is now known as Koreatown. The development of the site does not coincide with the development of Koreatown as a Korean community. In addition, the individual buildings and the campus as a whole have only been specifically associated with the Korean community for approximately 10 years. Therefore, this association is too recent to convey potential historic significance at this time.

The 1953 and 1964 classroom buildings; and the campus as a whole did not have an important impact on local, state, or national history, and therefore do not meet the established eligibility standards for listing in the National Register of Historic Places, the California Register of Historical Resources, or as a City of Los Angeles Historic-Cultural Monument under Criterion A/1/1.

Criterion B/2/2 **(association with an important person)**

According to the National Park Service, properties may be eligible for an association with the lives of persons significant in our past: individuals whose activities are demonstrably important within a local, state, or national historic context. A property is not eligible if its only justification for significance is that it was owned or used by a person who is a member of an identifiable profession, class, or social or ethnic group. In addition, the property must be associated with a person's productive life, reflecting the time period when he or she achieved significance.

There is no evidence that the religious campus at 550 S. Shatto Place is associated with persons significant in our past. Though the church building was associated with the First English Lutheran Church from its construction in 1936 until approximately 2004, there is no evidence to suggest that leaders of the church or members of the congregation had a demonstrable impact on local, state, or national history or culture.

The New Covenant Academy was founded by Dr. Jason Song and Mrs. Kara Kim-Song in 1999 and moved its campus to the subject property in 2013. Because the academy was founded in the recent past, there is insufficient evidence to suggest its founders had a demonstrable impact on local, state, or national history or culture.

Therefore, neither the individual buildings nor the campus as a whole are eligible for listing in the National Register of Historic Places, the California Register of Historical Resources, or as a City of Los Angeles Historic-Cultural Monument under Criterion B/2/2.

***Criterion C/3/3* (architectural merit or work of a master architect)**

To be eligible under Criterion C/3/3 as an example of Mid-century Modern style architecture, the 1953 and 1964 classroom buildings must meet the following eligibility standards, as defined in SurveyLA:

- Exhibit quality of design through distinctive features
- Retains the essential character defining features of Mid-century Modernism from the period of significance
- Was constructed during the period of significance

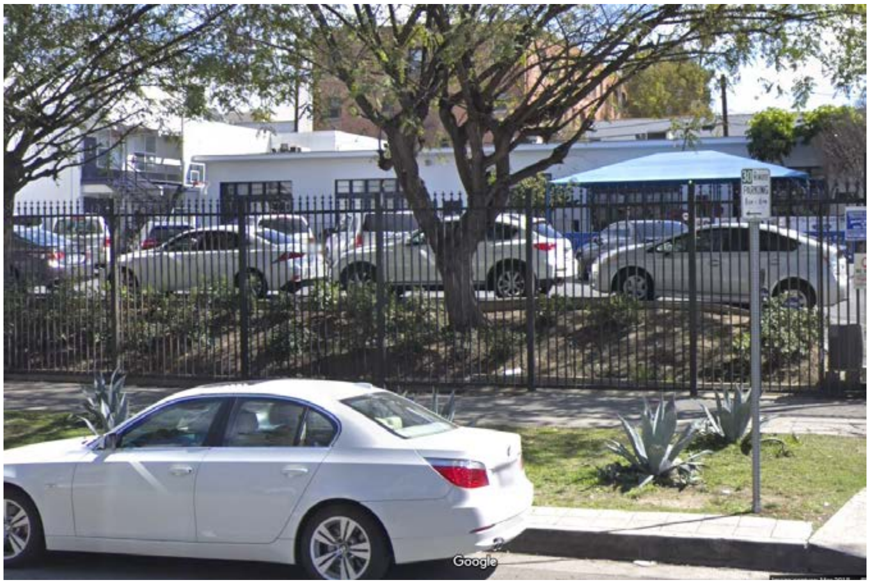
The 1953 and 1964 classroom buildings were not identified as significant by SurveyLA. The two buildings are typical, undistinguished examples of institutional architecture of the period; they do not embody the distinctive characteristics of Mid-century Modern design; and they do not possess high artistic value. Little information is available about the careers and bodies of work of the two architects, J. A. Murrey and Philip M. Conkle, and neither is considered a master architect.

Therefore, the classroom buildings do not meet the eligibility standards delineated by SurveyLA for Mid-century Modern institutional buildings. Although they were constructed during the period of significance and retain the essential features from their original construction, they do not exhibit quality of design through distinctive features.

Therefore, the 1953 and 1964 classroom buildings are not eligible for listing in the National Register of Historic Places, the California Register of Historical Resources, or as City of Los Angeles Historic-Cultural Monuments under Criterion C/3/3.

View of south and east façades, facing northeast.

View of east façade, facing west.



View of classroom additions, facing northwest.

Contextual view of 550 S. Shatto Place from S. Shatto Place, facing southwest.

The Project Site is located in the Wilshire Community Plan Area ("CPA") of Los Angeles. Two potential historical resources immediately adjacent to the Project Site at 3109 W. 6th Street and 523 S. Westmoreland Avenue were identified by SurveyLA; these are described below and indicated in the map in Figure 3. These two properties are therefore considered historical resources as defined by CEQA for purposes of this report.

3109 W. 6th Street

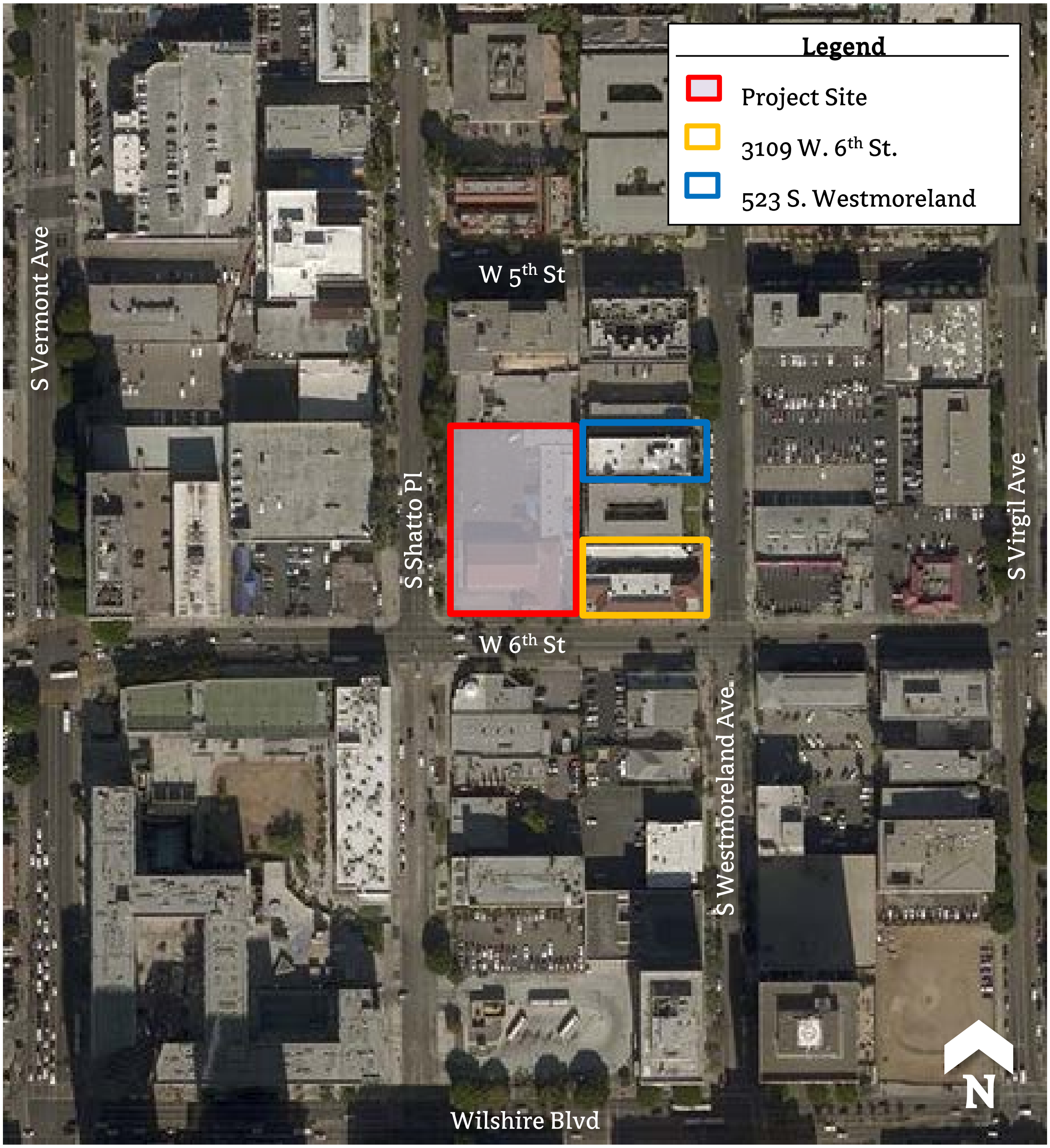
3109 W. 6th Street is located immediately adjacent to the Project Site to the east. It is a two-story mixed-use building, designed in the Mediterranean Revival style and constructed in 1924. There is a cross-gabled roof clad in clay barrel tiles at the primary (south and east) façades, and a flat roof clad in built-up roofing at the rear. There are two partial-width recessed balconies at the second floor. The building is of masonry construction. The primary façades are clad in smooth plaster with brick accents at the second floor. Fenestration and storefronts have largely been replaced; two windows on the south façade have been infilled. The primary entrance is symmetrically located on south façade and consists of a pair of paneled wood doors beneath a decorative transom with wrought iron screen and decorative cast plaster surround.

3109 W. 6th Street was identified as a potential historical resource by SurveyLA during the survey of the Wilshire CPA. It was assigned the status code of 3CS, which is defined as "appears eligible for listing in the California Register of Historical Resources as an individual property through survey evaluation." It was evaluated under the "Commercial Development, 1850-1980" context and the "Streetcar Commercial Development, 1873-1934" theme as a "rare intact example of early commercial development located along a former streetcar line in the Wilshire area." 3109 W. 6th Street is therefore treated as a historical resource as defined by CEQA for the purposes of this report.

523 S. Westmoreland Avenue

The San Mar Manor apartments, at 523 S. Westmoreland Avenue, is located immediately adjacent to the Project Site to the east. It is a four-story multi-family residential building, designed in the Tudor Revival style and constructed in 1925. There is a steeply-pitched cross-gable roof clad in slate shingles at the front of the building, and a flat roof with parapet clad in built-up roofing at the rear. The building is of masonry construction. The exterior walls of the first floor are clad in scored plaster, and the exterior walls on the remaining floors are exposed brick. There are cast plaster quoins, keystones, window surrounds, string course, and cornice. Fenestration consists primarily of divided-light six-over-one and one-over-one double-hung windows with brick lintels and cast stone keystones. The primary entrance is symmetrically located on the primary (east) façade and consists of a single glazed door with side lights, accessed from the sidewalk by a set of brick steps.

523 S. Westmoreland Avenue was identified as a potential historical resource by SurveyLA during the survey of the Wilshire CPA. It was assigned a status code of 3S, which is defined as "appears eligible for listing in the National Register of Historic Places as an individual property through survey evaluation." It was evaluated under the Residential Development and Suburbanization, 1850-1980 context and the "Multi-Family Residential, 1910-1980 theme as an "excellent example of a 1920s brick apartment house in the Wilshire area, exhibiting the essential characteristics of the type." 523 S. Westmoreland Avenue is therefore treated as a historical resource as defined by CEQA for the purposes of this report.


Legend
Project Site
3109 W. 6th St.
523 S. Westmoreland
S Vermont Ave
W 5th St
S Shatto Pl
W 6th St
S Westmoreland Ave
S Virgil Ave
Wilshire Blvd
N

3901 W. 6th Street, view facing northwest.

523 S. Westmoreland Ave., view facing west.

The State Legislature, in enacting the California Register, amended CEQA to clarify which properties are significant, as well as which project impacts are considered to be significantly adverse.

A project with an effect that may cause a substantial adverse change in the significance of a historic resource is a project that may have a significant effect on the environment.[46] A substantial adverse change in the significance of a historic resource means demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired.[47]

The CEQA Guidelines further state that "[t]he significance of an historic resource is materially impaired when a project… [d]emolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources… local register of historic resources… or its identification in a historic resources survey."[48]

Potential Impacts on the Project Site

Potential Impacts from Demolition

The Project will demolish the two classroom buildings, constructed in 1953 and 1964, located on the Project Site to the north of the church building. Neither of these buildings was identified by SurveyLA as significant and, as demonstrated in the analysis in Section 12.0 of this Report, neither is eligible for listing in the National Register, the California Register, or as a City of Los Angeles Historic-Cultural Monument. The two buildings are typical, undistinguished examples of institutional architecture of the period; they do not embody the distinctive characteristics of Mid-century Modern design; and they do not possess high artistic value. They reflect trends in school design from the period, but do not represent an important association with postwar institutional development. Therefore, their demolition does not represent a substantial adverse change such that the significance of a historical resource would be materially impaired.

Potential Impacts from New Construction

The Project will construct a new 31-story, mixed-use high-rise tower adjacent to the existing church building at 550 S. Shatto Place. The proposed new construction is not considered an "addition" to the church building because it is conceived and designed as

[46] *CEQA Guidelines*, section 15064.5(b).
[47] *CEQA Guidelines*, section 15064.5(b)(1).
[48] *CEQA Guidelines*, section 15064.5(b)(2).

a building separate and distinct from the church building; it will be structurally independent, and it will read as a separate building when encountered from the public right-of-way. After implementation of the Project, the shape and form of the adjacent church building will remain intact and its architectural features will remain viewable and understandable from the exterior.

The Project does involve new construction that would alter the immediate surroundings of the 1936 church building. As discussed above, the significance of an historical resource is materially impaired, and constitutes a substantial adverse change in the significance of that historical resource, if the project would materially alter the immediate surroundings of the historical resource such that (a) it could no longer be listed in, or be eligible for listing in, the California Register, or (b) it could no longer be included in a local register of historical resources or identified as an historical resource in an historical resource survey.[49]

Because the Project would add height and density on a parcel that is currently occupied by low-rise, low-density development, the immediate surroundings of the adjacent church building would be altered. In order for this alteration to be considered a substantial adverse change, however, it must be shown that the integrity and/or significance of the historical resource would be *materially impaired* by the proposed alteration. A resource is not materially impaired unless it is altered in an adverse manner to the point that its physical characteristics fail to convey its historical significance.[50]

As noted above in this report, the ability of an historical resource to convey its significance is based on an analysis of its historic integrity. The National Park Service identifies seven aspects of historic integrity: *location, design, setting, materials, workmanship, feeling, and association*.

Alteration to the surroundings of adjacent historical resources that adversely affects the integrity of those historical resources can potentially constitute a substantial adverse change in those resources. The seven aspects of integrity are used below to analyze the alteration to the immediate surroundings of the former First English Evangelical Lutheran Church.

SurveyLA identified the 1936 Church building as historically significant for its Spanish Colonial Revival architecture. The Project's construction of an adjacent, 31-story mixed-used tower will not affect the integrity of *location, design, materials, or workmanship* of

[49] *CEQA Guidelines*, section 15064.5(b) (1).
[50] *CEQA Guidelines*, section 15064.5(b) (1).

the Church building; the building will remain intact in its current location. Therefore, integrity of *feeling* will also remain unaffected by the Project because all the existing physical elements that characterize the Church building will continue to convey the property's historic significance after construction of the Project.

The Church building does not derive significance from association with any persons or events. Therefore, integrity of *association* is not relevant to this analysis.

The only aspect of the Church building's integrity that is potentially affected by the Project is *setting*. The Project will occupy the northern portion of the property on which the Church is located and will construct a 31-story high-rise tower, more than fifteen times as tall as the two-story Church building. The immediate environs of the Church will be considerably altered on its north side, thus altering the property's integrity of *setting*.

However, the Church was identified as significant for its Spanish Colonial Revival architecture, which is expressed primarily on the west and south façades, facing Shatto Place and 6th Street respectively. The Project will have no impact on these façades, and the Church's Spanish Colonial Revival architecture will remain unaltered. The building's setting is therefore not critical to understanding the property's history and significance.

According to National Park Service guidance, "to retain historic integrity a property will always possess several, and usually most, of the (seven) aspects" of integrity.[51] After the Project is constructed, the former First English Evangelical Lutheran Church will retain integrity of *location, design, materials, workmanship*, and *feeling*. Integrity of *setting* will be altered by the new construction.

Therefore, all but one of the relevant aspects of integrity will be unaffected by the Project, so that the historic integrity of the Church building will be retained. While the Project will alter the setting of the Church, it will not materially impair the building such that it can no longer convey any potential historic significance. After construction of the Project, the building's Spanish Colonial Revival architecture will remain intact, and the property would remain eligible for historic designation as identified in SurveyLA.

The Project will excavate for a four-level subterranean parking structure adjacent to the existing church building. The Project therefore does have the potential to impact the structural integrity of the adjacent church building through excavation and construction procedures. Absent specific mitigation measures to ensure the proper protection and treatment of the church during demolition, excavation and construction, there is a

[51] *National Register Bulletin 15*, 44.

potential for significant impacts. However, with the implementation of appropriate mitigation as recommended in Section 15, the potential for impacts to the church during construction is reduced to less than significant as defined by CEQA.

Potential Impacts from Alteration

The Project will rehabilitate the former First English Evangelical Lutheran Church building for new use as restaurant space. The rehabilitation would include the addition of an elevator and small lobby on the north façade, to provide access to the second floor; the addition of a new access ramp leading from the sidewalk on Shatto Place to new accessible entrance/egress doors on the north façade; the addition of wide bi-folding glass doors between the buttresses on the south façade, to open the former sanctuary to the arcade and new dining patio; replacement of the existing paneled wood doors at the main entrance with new glass doors (the original doors will be stored on site); replacement of the existing stained glass with new stained glass in a new pattern, within the existing window sash; the addition of two new windows at the second story on the south façade; the addition of two new windows and a storefront opening on the east façade; the replacement of two pairs of wood doors on the east façade with glass doors; the addition of two skylights on the east side of the roof; and the addition of two skylights on the north side of the roof. The conversion to restaurant space also requires the addition of mechanical equipment at the ground level of the east façade; and the addition of intake and exhaust vents at the north and east facades. The Project will also add a gateway at the southeast corner of the church building, along 6th Street. The gateway will be constructed of metal and glass and will include a stained-glass screen that wraps the southeast corner of the church building at the second story.

The elevator and lobby addition is located near the rear of a secondary façade, and thus will be minimally visible from the public right-of-way. It will be proportionally small in size, in comparison to the church building; it will be lower in height than the roof ridge of the former sanctuary; and it will be minimalist in design. The proposed new access ramp and accessible doors on the secondary north façade would provide needed accessibility to the church building, while allowing the primary entrance to remain unaltered. Providing an accessible entrance at the primary façade would require the complete reconstruction of the existing entrance steps in order to allow sufficient space for an accessible landing on the front façade; therefore, the proposed plan for a new accessible entrance on the north façade is the preferred solution for providing access to the building.[52] The added skylights on the north side of the roof are on a secondary

[52] The proposed new entrance door on the secondary north façade is located less than 200 feet from the primary entrance, and therefore complies with Section 8-603.2 of the 2016 California Historical Building Code.

façade that will not be highly visible from the public right-of-way. The doors will be minimalist in design and will be aligned with the existing clerestory windows above and will retain the high wall-to-opening ratio of the church's original design.

The added bi-fold doors on the south façade will maintain the rhythm of the sanctuary's bays between the existing buttresses, although they will pierce a formerly blank wall. The doors will be largely concealed from view of the public right-of-way by the existing arcade that runs along the sanctuary's south façade, so the overall appearance of the church building will remain intact. The existing paneled wood entrance doors will be replaced but will be stored on-site for future re-use; the new glass doors will be minimalist in design do differentiate them from the original building. Similarly, the existing steel sash windows will be retained; the existing stained glass will be removed and stored on site. New stained glass will be installed, in a contemporary but compatible design that is better-suited to the building's new use. The existence and condition of the rose window and tympanum will be verified during construction; if they are extant and intact, they will be retained.

The added windows on the south and east façades of the two-story portion of the building will maintain the pattern of the original openings, but will be differentiated by their simple single-light design. Those on the east façade, together with the added skylights and replaced doors, will be located on the back of the building and will be minimally visible, if at all, from the public-right-of way.

The required mechanical equipment for the restaurant use be will housed at ground level at the east façade. This location is preferred and appropriate, as the east façade is the rear of the building, and the equipment will therefore not affect any significant exterior character-defining features and will not be visible from the public right-of-way. This approach will allow the roof to remain free of mechanical equipment, where it would have been more visible from the street and neighboring properties, and it would have required additional openings and alterations on the historic roof. The required intake and exhaust vents will be located on the east and north façades. There are code and practical requirements that limit where these vents can be located; their placement has been carefully considered to minimize impacts to the exterior of the building while meeting code requirements. There will be one intake louver and two exhaust louvers located on the east façade. This is the rear façade of the building, and therefore those openings will not impact significant exterior character-defining features and will not be visible from the public right-of-way. The exhaust louvers will be located adjacent to window openings, to maintain the rhythm of solid to void as much as possible. The intake louver will be located behind the railing for the new exterior stair, minimizing its visibility. On the north façade, the exhaust louvers will be located at the third bay, just under the roofline. They will be painted to match the exterior of the building and will be minimally visible. The intake louvers will be located above the two new doors in the fourth and fifth bays, simulating the appearance of transom windows. The addition of these vents on the north façade will not impact significant character-defining features and will be minimally visible from the public right-of-way.

The proposed glass-and-metal gateway at the southeast corner of the Church building will be located on secondary façades and will not alter the primary façade of the building. The gateway will be additive in nature and reversible and will not alter any existing features of the Church building. It will be minimalist in design so as to be both differentiated from, and subordinate to, the Church building.

The proposed alterations will thus minimally alter the appearance of the former church building as viewed from the public right-of-way. The building's Spanish Colonial Revival architecture will remain intact, and it will retain integrity of *location*, *design*, *materials*, *workmanship* and *feeling*.

Potential Impacts to Historical Resources Adjacent to the Project Site

There are two potential historical resources in the immediate Project vicinity. These are 3109 W. 6th Street and 523 S. Westmoreland Avenue, located immediately to the east of the Project Site. Because the Project would add height and density on parcels that are currently developed with low-scale institutional buildings, the immediate surroundings of the adjacent potential historical resources identified would be altered. In order for this alteration to be considered a substantial adverse change, however, it must be shown that the integrity and/or significance of the historical resources would be *materially impaired* by the proposed alteration. A resource is not materially impaired unless it is altered in an adverse manner to the point that its physical characteristics fail to convey its historical significance.[53]

As noted earlier in this report, the ability of an historical resource to convey its significance is based on an analysis of its historic integrity. The National Park Service identifies seven aspects of historic integrity: *location, design, setting, materials, workmanship, feeling, and association*.

Alteration to the surroundings of adjacent historical resources that adversely affects the integrity of those historical resources can potentially constitute a substantial adverse change in those resources. The seven aspects of integrity are used below to analyze the

[53] *CEQA Guidelines*, section 15064.5(b) (1).

alteration to the immediate surroundings of each of the potentially affected historical resources identified in this report.

The mixed-use building at 3109 W. 6th Street was identified as historically significant as an example of early commercial development located along a former streetcar line in the Wilshire area. It was identified during the Wilshire CPA phase of SurveyLA and found eligible for listing in the California Register of Historic Places as a potential individual resource.

The only aspect of the building's integrity that is potentially affected by the Project is *setting*. The Project will occupy a portion of a parcel which is immediately adjacent to 3109 W. 6th Street. The Project will demolish the two classroom buildings constructed in 1953 and 1964 located on the Project Site to the north of the church building and construct a high-rise tower of approximately 31 stories, adding considerable height to the immediate surroundings of the two-story commercial and residential building. The immediate environs of 3109 W. 6th Street will be considerably altered on its western boundary, altering the property's integrity of *setting*.

However, 3109 W. 6th Street is significant for its historic character as a commercial building constructed along a former streetcar line, which is expressed on the south (primary) façade, facing W. 6th Street. The Project will have no impact on this façade or the building's orientation toward the street. The west and north façades, which will face the proposed new construction, are unornamented and historically intended to be adjacent to another building or to function as utilitarian, rear façades. The building's setting at its westward boundary is therefore not critical to understanding the property's history and significance.

Therefore, all but one of the relevant aspects of integrity will be unaffected by the Project, so that the historic integrity of the mixed-use building at 3109 W. 6th Street will be retained. While the Project will alter the setting of 3109 W. 6th Street, it will not materially impair the building such that it can no longer convey its historic significance. After completion of the Project, 3109 W. 6th Street's historic orientation toward W. 6th Street and its location along a former streetcar line will remain intact, and the property will remain eligible for historic designation as identified in SurveyLA.

The multi-family residential building at 523 S. Westmoreland Avenue was identified as historically significant as an example of a 1920s brick apartment house in the Wilshire area. It was identified during the Wilshire CPA phase of SurveyLA and found eligible for listing in the National Register of Historic Places as a potential individual resource.

The only aspect of the building's integrity that is potentially affected by the Project is *setting*. The Project will occupy a portion of a parcel which is immediately adjacent to 523 S. Westmoreland Avenue. The Project will demolish the two classroom buildings, constructed in 1953 and 1964, located on the Project Site to the north of the church building and construct a high-rise tower of approximately 31 stories, adding considerable height to the immediate surroundings of the four-story apartment building. The immediate environs of 523 S. Westmoreland Avenue will be considerably altered on its western boundary, altering the property's integrity of *setting*.

However, 523 S. Westmoreland Avenue is significant for its historic character as a brick apartment house. The building's design features are expressed primarily on its east (primary) façade, facing S. Westmoreland Avenue. The Project will have no impact on this façade or the building's historic character as a brick apartment building. The west façade, which will face the proposed new construction, is unornamented and historically intended to function as a utilitarian, rear façade. The building's setting is therefore not critical to understanding the property's history and significance.

Therefore, all but one of the relevant aspects of integrity will be unaffected by the Project, so that the historic integrity of the apartment building at 523 S. Westmoreland Avenue will be retained. While the Project will alter the setting of 523 S. Westmoreland Avenue, it will not materially impair the building such that it can no longer convey its historic significance. After construction of the Project, the apartment building's historic character as a brick apartment house will remain intact, and the property will remain eligible for historic designation as identified by SurveyLA.

As discussed above, the significance of an historical resource is materially impaired, and constitutes a substantial adverse change in the significance of that historical resource, if the project would materially alter the immediate surroundings of the historical resource such that (a) it could no longer be listed in, or be eligible for listing in, the California Register, or (b) it could no longer be included in a local register of historical resources or identified as an historical resource in an historical resource survey.[54] The proposed Project would not alter the immediate surroundings of any historical resources in the vicinity of the Project Site such that they could no longer convey their historic significance.

The Project will excavate for a four-level subterranean parking structure, and therefore does have the potential to impact the structural integrity of the adjacent historical resources through excavation and construction procedures. Absent specific mitigation

[54] *CEQA Guidelines*, section 15064.5(b) (1).

measures to ensure the proper protection and treatment of the adjacent historical resources during demolition, excavation and construction, there is a potential for significant impacts. However, with the implementation of appropriate mitigation as recommended in Section 15, the potential for impacts to the buildings during construction is reduced to less than significant as defined by CEQA.

15.0 RECOMMENDED MITIGATION MEASURE

Prior to the issuance of grading permits, the Applicant will provide a shoring plan prepared by a qualified structural engineer who meets the relevant Secretary of the Interior's Professional Standards, for review and approval by the City of Los Angeles. The shoring plan will ensure the protection of the 1936 church on the Project Site, as well as the potential historical resources adjacent to the Project Site at 3109 W. 6th Street and 523 S. Westmoreland Avenue, during construction.

With the implementation of the recommended mitigation measure, the Project will not result in significant adverse impacts to potential historical resources on the Project Site or in the immediate Project vicinity as defined by CEQA.

2011 California Environmental Quality Act (CEQA) Statute and Guidelines, California Association of Environmental Professionals, www.califaep.org

Architectural Resources Group, Inc. *SurveyLA: Historic Resources Survey Report: Wilshire Community Plan Area.* Prepared for City of Los Angeles, Department of City Planning, Office of Historic Resources. January 23, 2015.

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City of Los Angeles Office of Historic Resources website, http://www.preservation.lacity.org/monuments

Code of Federal Regulations, (Title 36, Part 60)

Cultural Heritage Ordinance: Section 22.120 et. seq. of the Administrative Code. Department of City Planning, Los Angeles, California.

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Secretary of the Interior's Standards for Rehabilitation. http://www.cr.nps.gov/hps/tps/tax/rhb/stand.htm, 18 September 2008.

U.S. Department of the Interior. "National Register Bulletin 16: How to Complete the National Register Registration Form." Washington, D.C.: National Park Service, 1997.

U.S. Department of the Interior. "National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation." Washington D.C.: National Park Service, 1995.

APPENDIX A – HISTORIC IMAGE

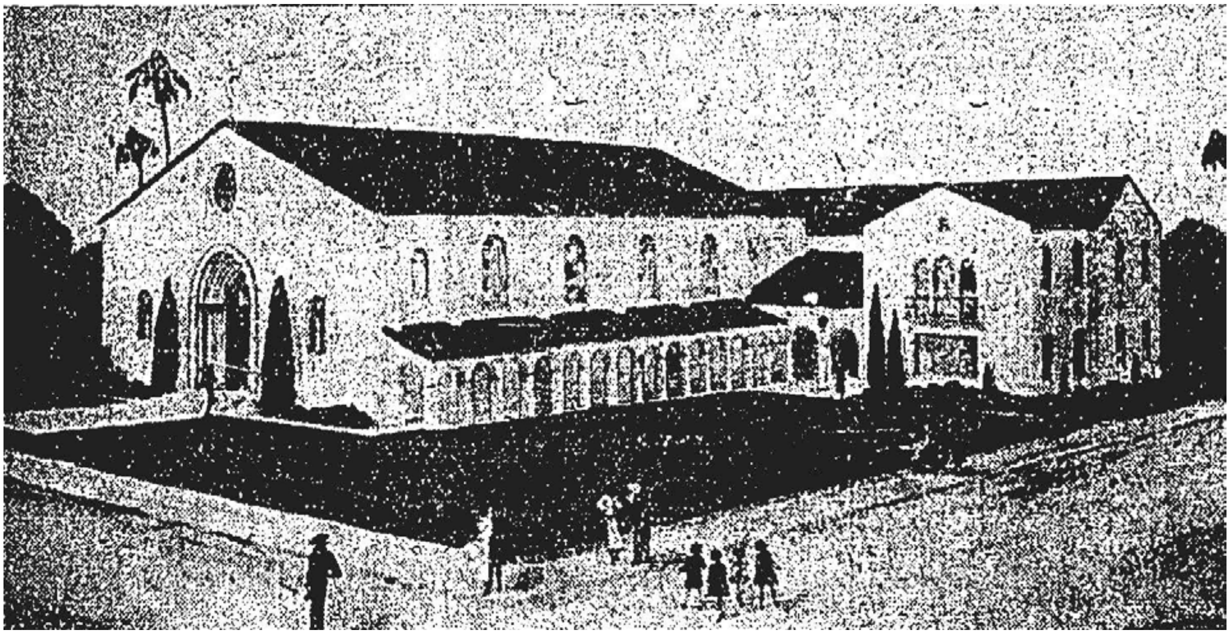
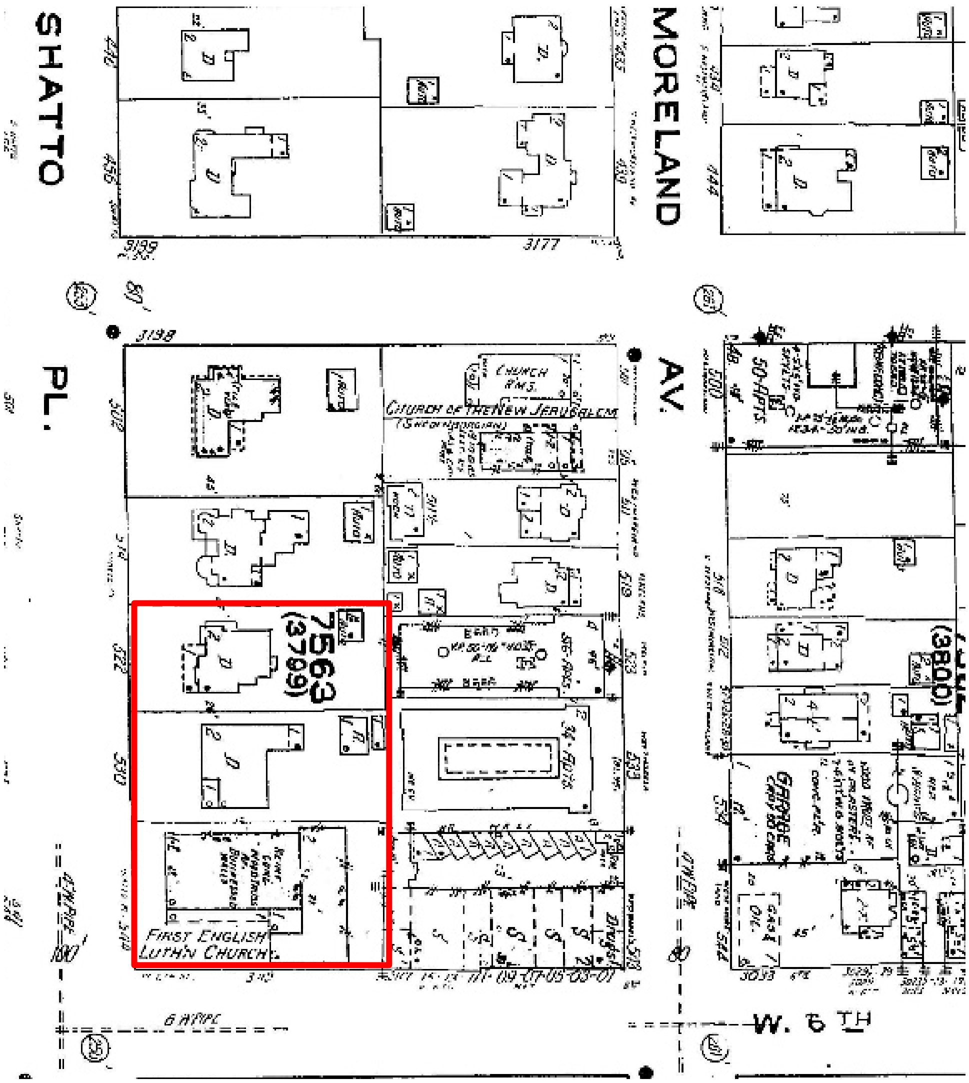


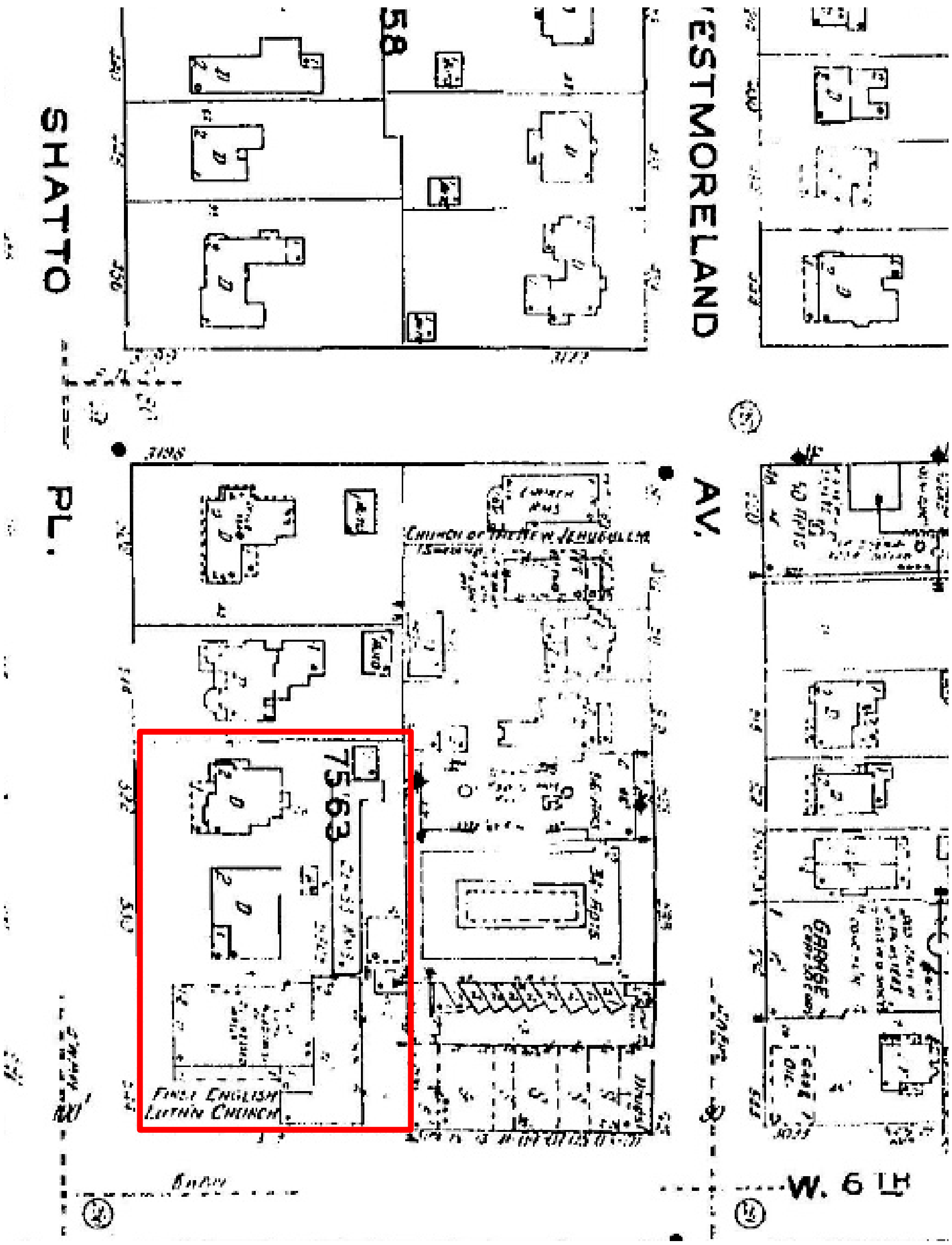
Image described as a “rendering” of First English Evangelical Lutheran Church, 1936. Source: “New Edifice to Replace Pioneer Structure,” *Los Angeles Times*, August 2, 1936.

APPENDIX B – SANBORN FIRE INSURANCE MAPS

Sanborn Map, 1950



Sanborn Map, 1954



APPENDIX C – SOUTH CENTRAL COASTAL INFORMATION CENTER SEARCH RESULTS

South Central Coastal Information Center
California State University, Fullerton
Department of Anthropology MH-426
800 North State College Boulevard
Fullerton, CA 92834-6846
657.278.5395 / FAX 657.278.5542
sccic@fullerton.edu
California Historical Resources Information System
Orange, Los Angeles, San Bernardino, and Ventura Counties

10/18/2018 Records Search File No.: 19501.5476

Molly Iker-Johnson
Historic Resources Group
12 S. Fair Oaks Ave, Suite 200
Pasadena, CA 91105-3816

Re: Records Search Results for the 17-0256

The South Central Coastal Information Center received your records search request for the project area referenced above, located on the Hollywood, CA USGS 7.5' quadrangle. The following reflects the results of the records search for the project area and a no radius:

As indicated on the data request form, no map with locations of resources and reports was provided.

Resources within project area: 0	None
Resources listed in the OHP Historic Properties Directory within project area: 0	None
Reports within project area: 0	None

Resource Database Printout (list):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Database Printout (details):	☐ enclosed	☐ not requested	☒ nothing listed
Resource Digital Database (spreadsheet):	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (list):	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (details):	☐ enclosed	☐ not requested	☒ nothing listed
Report Digital Database (spreadsheet):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Record Copies:	☐ enclosed	☒ not requested	☐ nothing listed
Report Copies:	☐ enclosed	☒ not requested	☐ nothing listed
OHP Historic Properties Directory:	☐ enclosed	☐ not requested	☒ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed	☐ not requested	☒ nothing listed
Los Angeles Historic-Cultural Monuments	☐ enclosed	☐ not requested	☒ nothing listed
Historical Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Ethnographic Information:	☒ not available at SCCIC		
Historical Literature:	☒ not available at SCCIC		
GLO and/or Rancho Plat Maps:	☒ not available at SCCIC		
Caltrans Bridge Survey:	☒ not available at SCCIC; please go to		

http://www.dot.ca.gov/hq/structur/strmaint/historic.htm

Shipwreck Inventory: ☒ not available at SCCIC; please go to http://shipwrecks.slc.ca.gov/ShipwrecksDatabase/Shipwrecks_Database.asp

Soil Survey Maps: (see below) ☒ not available at SCCIC; please go to http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System,

Michelle Galaz
Assistant Coordinator

Enclosures:

(X) Invoice #19501.5476

APPENDIX D – RESUMES OF AUTHORS/CONTRIBUTORS

Years of Experience: 15

Education

Master of Heritage Conservation
University of Southern California

Bachelor of Arts, Art History
Pennsylvania State University

Professional Affiliations

Los Angeles Conservancy

California Preservation Foundation

National Trust for Historic Preservation

Docomomo_US

CHRISTINE LAZZARETTO

MANAGING PRINCIPAL

Experience Profile

Christine Lazzaretto is an Architectural Historian with 15 years of experience in historic preservation in Southern California. Christine joined Historic Resources Group in 2008 and became Managing Principal in 2018. At HRG, Christine works on environmental review, policy development, historic resources surveys, historic context statements, and federal tax credit projects. She has worked on numerous large-scale historic resources surveys, authored a wide range of historic context statements and successful National Register nominations. Her deep understanding of CEQA principles, significance, context and environmental impacts make her a leading expert in cultural resources analysis for environmental review. Christine also manages teams of professional colleagues on large-scale planning efforts.

Selected projects include: Citywide surveys for Beverly Hills, Los Angeles, Modernism in Riverside; Context Statements for City of Pasadena Recent Past, Paso Robles, San Luis Obispo, Beverly Hills, South Pasadena; City of Long Beach Historic Preservation Element; National Register nomination for the University of Southern California; Forum historic tax credit project; Master Plan for University of Southern California.

Prior to joining HRG, Christine worked at Pasadena Heritage as Preservation Director and Program Director, where her responsibilities included administering the Preservation Easement Program; assisting with advocacy efforts; attending local hearings and advising neighborhood groups on preservation issues; conceiving, organizing and implementing all of the organization's highly successful educational tours and programs.

Christine serves on the Board of Trustees of the California Preservation Foundation; she is the Vice-President of the Southern California chapter of Docomomo_US; and she is a lecturer in the University of Southern California Heritage Conservation summer program.

Christine Lazzaretto meets the *Secretary of the Interior's Professional Qualifications Standards* in History and Architectural History.

Selected Project Experience

City of Palm Springs Citywide Survey
City of Santa Monica Citywide Survey Update
Forum Rehabilitation and Historic Tax Credit Project
Paramount Pictures Master Plan, Los Angeles
South Glendale Survey
SurveyLA, City of Los Angeles Citywide Survey
University of Southern California Consulting Services

Years of Experience: 30

Professional License

California Architect C24223

Education

Master's Degree, Historic Preservation, University of Southern California, Los Angeles, CA

Bachelor of Architecture, University of Southern California

Professional Affiliations

American Institute of Architects

Glendale Historical Society

- President, 2008-2011

JOHN LOCASCIO, AIA

PRINCIPAL

Experience Profile

A licensed, practicing architect for 25 years, John has been involved with historic preservation for 15 years and working at HRG for 6 years.

John's areas of focus at HRG include historic architecture and technology, building conservation, historic structure reports, and federal historic rehabilitation tax credit projects. He provides technical assistance for construction documents, advises on compliance with the Secretary of the Interior's Standards and the use of the State Historic Building Code, provides construction monitoring, and paint and materials sampling and analysis services.

John has worked on a wide variety of projects involving historic buildings and structures in Southern California, including CBS Columbia Square, Grand Central Air Terminal in Glendale, the Academy of Motion Pictures Museum, Los Angeles International Airport, Hotel Constance, Los Angeles Forum, University of Southern California, numerous LAUSD campus modernization projects, and the 28th Street YMCA.

Prior to joining HRG, John served as Executive Director of Claremont Heritage, including reviewing environmental documents and advising the City of Claremont on planning and design issues. John also worked for 14 years as a project architect in private practice, specializing in custom residential projects.

John LoCascio meets the *Secretary of the Interior's Professional Qualifications Standards* in Architecture and Historic Architecture.

Selected Project Experience

28th Street YMCA, Los Angeles
Academy Museum of Motion Pictures, Hollywood
CBS Columbia Square, Hollywood
Constance Hotel, Pasadena
Grand Central Air Terminal, Glendale
Forum, Inglewood
Los Angeles International Airport
Painted Desert Visitors' Center, Arizona
University of Southern California
Venice High School Modernization, Los Angeles

Years of Experience: 4

Education

Master of Arts, Historic Preservation, University of Delaware, Newark, 2015

Bachelor of Arts, History and Bachelor of Music in Instrumental Performance, Chapman University, Orange, CA, 2013

Professional Affiliations

Los Angeles Conservancy

Vernacular Architecture Forum

MOLLY IKER-JOHNSON

ASSOCIATE ARCHITECTURAL HISTORIAN

Experience Profile

Molly Iker-Johnson is an Associate Architectural Historian at Historic Resources Group. She has a Bachelor of Arts in History and a Bachelor of Music in Instrumental Performance from Chapman University and a Master of Arts in Historic Preservation from the University of Delaware. She has been with Historic Resources Group since 2014.

Prior to joining HRG, Molly worked as a Graduate Research Assistant for the Center for Historic Architecture and Design, a historic preservation organization located at the University of Delaware. Her responsibilities included assisting with large-format re-photography of early 20th century photographs taken by Delaware seed analyst Roydon Hammond, aiding in the compilation of lists of historically significant sites along Delaware's Byways, and creating photographic databases of historic sites along Delaware's Byways and Newark, Delaware's Main Street. She also worked for such organizations as Chapman University's Honors Program and CBS' Consumer Products division. At HRG, Molly works on historic resources surveys, historic context statements, historic assessments, and National Register nominations. She has worked on several large-scale historic resources surveys, including Citywide survey updates in Palm Springs, South Pasadena, and Santa Monica.

Molly Iker-Johnson meets the *Secretary of the Interior's Professional Qualifications Standards* in History and Architectural History.

Project Team

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MECH PLUMB ELEC
GreenMEP
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Santa Ana, CA 92702
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PERMIT EXPEDITOR
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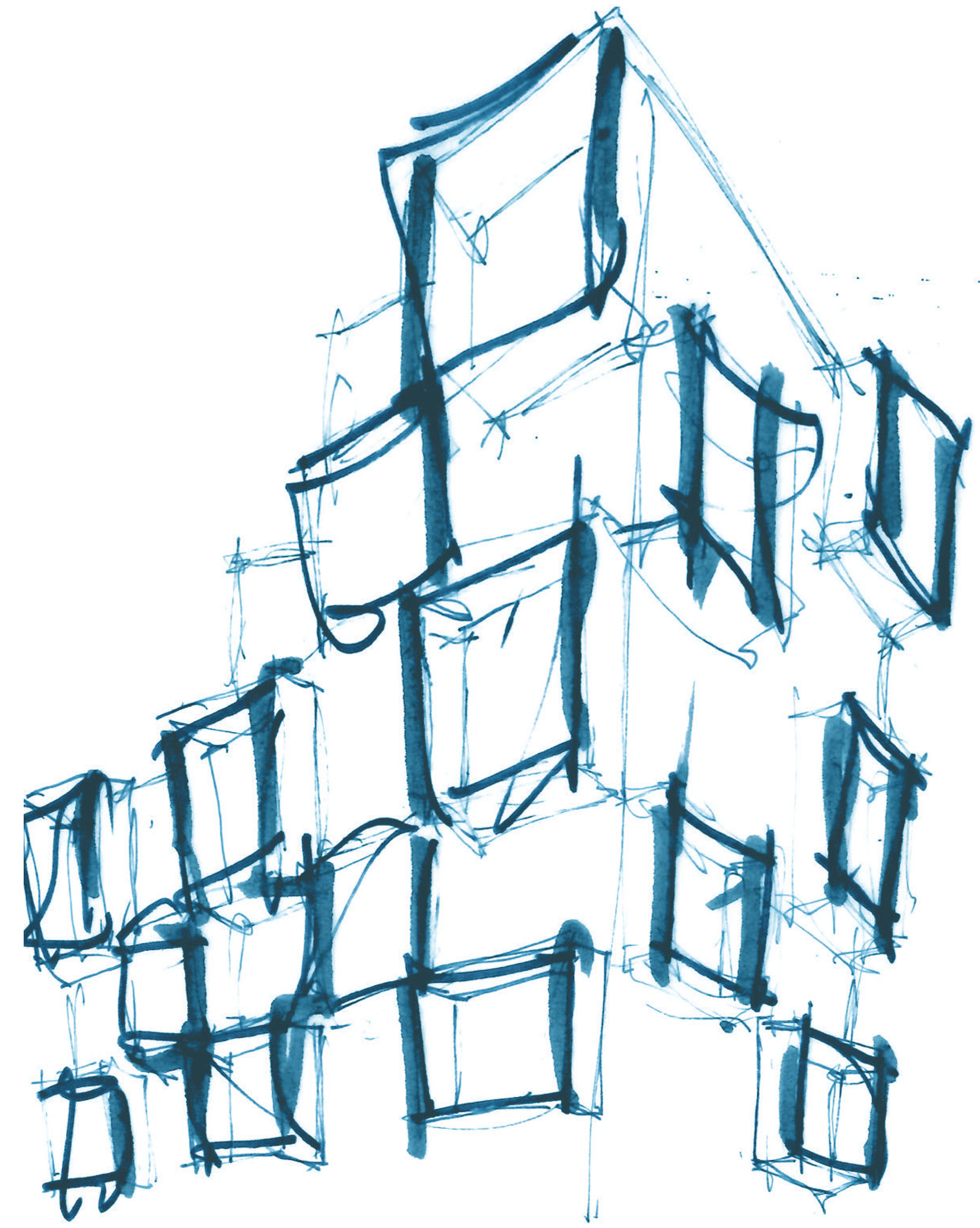
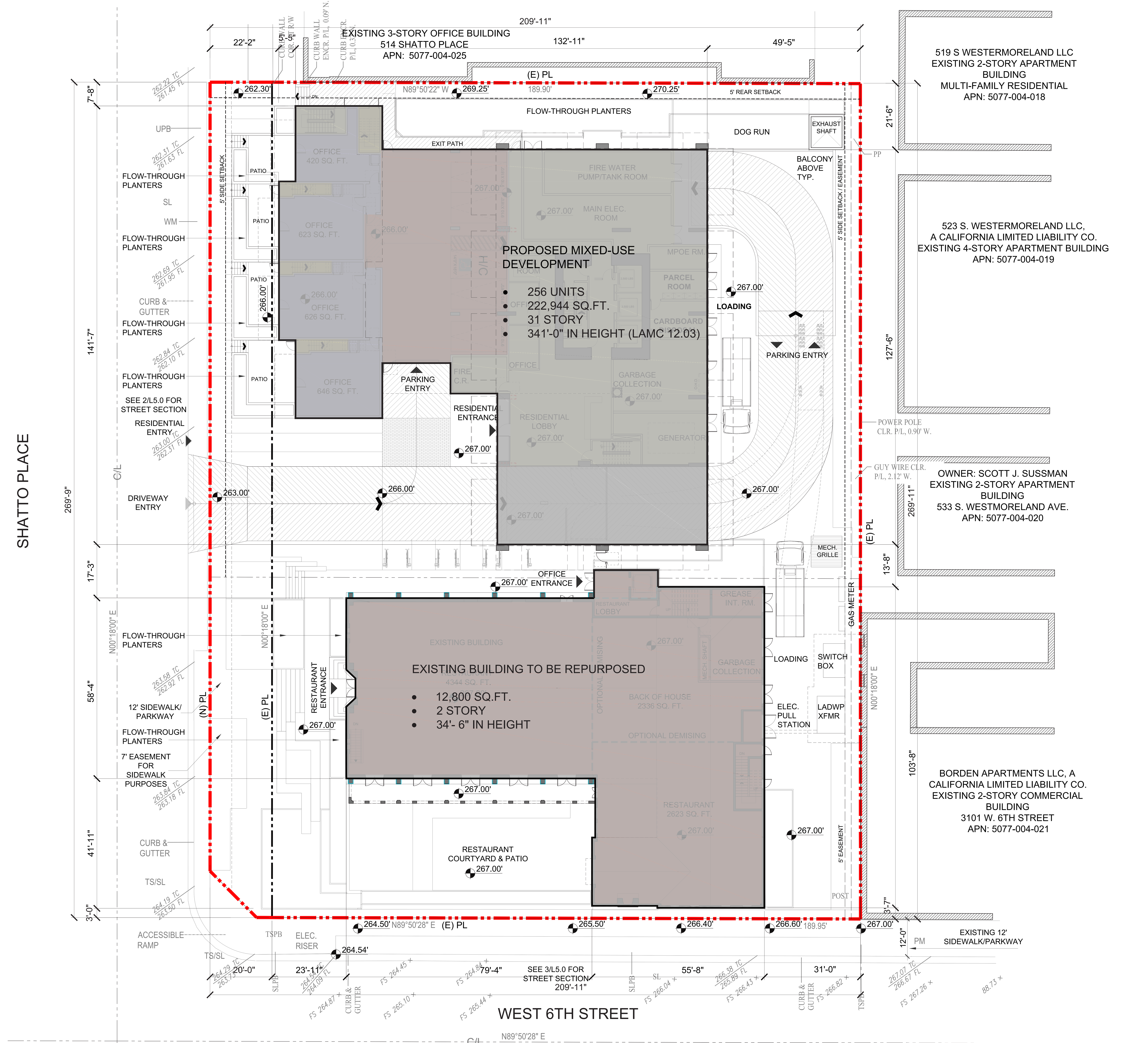
Drawing List



영혼
soul
550 Shatto Place

Entitlement Application
Revised Pages
2018 November 6

TF SHATTO LP | CHRIS DIKEAKOS ARCHITECTURAL CORP | CONNECT LA



TF SHATTO LP

CHRIS DIKEAKOS ARCHITECTURAL CORP

connect LANDSCAPE ARCHITECTURE

ENTITLEMENT APPLICATION

Soul
550 Shatto Place
Los Angeles, CA
90020, USA

Date
Nov. 6, 2018

Sheet Size
ARCH D 24 x 36

Project Information
Plot Plan
Scale 1/16" = 1'-0"

A1.01

PROJECT NAME	**550 SHATTO PLACE**					
PROJECT TYPE	MIXED USE RESIDENTIAL, COMMERCIAL AND OFFICE DEVELOPMENT					
LEGAL DESCRIPTION						
Parcel 1	LOT 10 IN BLOCK 3, IN THE SHATTO PLACE TRACT, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 6 PAGE 86 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.					
Parcel 2	LOT 11 AND 12 IN BLOCK 3, IN THE SHATTO PLACE TRACT, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 6 PAGE 86 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY. ASSESSOR'S PARCEL NO: 5077-004-033					
ZONING	Parcel 1	C2-1 (LOT 10)				
	Parcel 2	CR-1 (LOTS 11 & 12)				
APPLICABLE INCENTIVE PROGRAMS	TOC GUIDELINES TIER 4 - BASE AND 2 ADDITIONAL INCENTIVES.			ADDITIONAL INCENTIVES: 1. SIDE/REAR SETBACKS		
	STATE ENTERPRISE ZONE				2. 25% REDUCTION IN OPEN SPACE	
PROJECT AREA	C2-1(Existing Building)	Lot Area (SF)	22,961	CR-1(New Building)	Lot Area (SF)	33,558
		Buildable Area (SF)	22,961		Buildable Area (SF)	32,508
Pre-dedicated Area (SF)	51,236 (Parcel 1+Parcel 2)					
Post-dedicated Area (SF)	56,519 (Parcel 1+Parcel 2)					
FLOOR AREA RATIO	Under Current Zoning, the permitted FAR is 1.5:1 Per TOC Base Incentive for Tier 4, the permitted FAR is 4.25:1					
	C2-1 Permitted FAR			CR-1 Permitted FAR		
	FAR	Buildable Area (SF)	Permitted Floor Area (SF)	FAR	Buildable Area (SF)	Permitted Floor Area (SF)
	4.25	22,961	97,585	4.25	32,508	**138,159**
TOTAL PERMITTED FLOOR AREA (SF)	**97,585+138,159=235,744**					
	Existing Building			New Building		
	Commercial			Office	Residential	
PROPOSED FLOOR AREA(SF)	12,800			2,507	220,437	
SUBTOAL PROPOSED AREA (SF)	**12,800**			**222,944**		
TOTAL PROPOSED AREA (SF)	**12,800+222,944=235,744**					
SETBACKS	Per TOC Additional Incentive for reduced yard/setbacks for Commercial zones, the project utilizes side and rear yard requirements for the RAS3 zone per LAMC 12.10.5.					
			Required		Proposed	
	Yards		Commercial	Residential	Commercial	Residential
Per C2 Zone	Front-West 6th Street	South	0'-0"	0'-0"	3'-7"	112'-6"
Per RAS3 Zone	Rear	North	0'-0"	5'-0"	7'-8"	7'-8" @ L2
Per RAS3 Zone	Side-Shatto Place	West	0'-0"	5'-0"	22'-2"	22'-2" @ L2
Per RAS3 Zone	Side	East	0'-0"	5'-0"	31'-0"	41'-2" @ L3
DWELLING UNITS	Per LAMC 12.22.A.18, the total allowable base dwelling units is 400 sf of lot area / Unit. By providing 11% Extremely Low-Income Units per TOC Base Incentive for Tier 4, the permitted increase in dwelling units is 80%.					
	Permitted DU					
	Lot Area (SF)	Base Amount (Lot Area/400)	With TOC Round Up	With 80% TOC Increase		
	56,519	141	142	256		
TOTAL PERMITTED DU	**256**					
TOTAL REQUIRED EXTREMELY LOW-INCOME UNITS	29	(11% of Total Units Provided After Incentives)				
Units Mix	Studios	One Bedroom	Two Bedroom	3 Bedroom	4 Bedroom	
	2	150	96	8	0	
TOTAL PROPOSED DU	**256**					
TOTAL PROVIDED EXTREMELY LOW-INCOME UNITS	**29**					
OPEN SPACE	Open space requirements per LAMC 12.21.G will be reduced through the TOC Additional Incentives for Tier 4 by 25%.					
	Units	SF / Unit	# of Units	Open Space Req. (SF)		
	< 3 Habitable Rooms	100	152	15,200		
	3 Habitable Rooms	125	96	12,000		
	> 3 Habitable Rooms	175	8	1,400		
			Total	28,600		
			TOC 25% Reduction	7,150		
REQUIRED OPEN SPACE AREA (SF)	**28,600-7,150=21,450**					
	Type		Area (SF)	% of Total Required		
	Common Open Space		**10,725**	**50%**		
PROVIDED OPEN SPACE AREA (SF)	Including:	Exterior Common Open Space	9,793	46%		
		Interior Common Open Space	932	4%		
	Private Open Space		**10,725**	**50%**		
TOTAL PROVIDED OPEN SPACE (SF)	**21,450 (See A6.00 Open Space Diagram)**					

LANDSCAPE DISTRIBUTION	Minimum 25% of required Exterior Common Open Space				
	Common Exterior Open Space		Area (SF)		
REQUIRED	9,793	x 25%	**2,449**		
	Location		Area (SF)		
	L1		1,880		
	L2		920		
	L30		703		
PROVIDED	**3,503**				
TREE REQUIREMENTS	1 Tree / 4 Dwelling Units				
REQUIRED	# Dwelling Units	Ratio	# Trees		
	256	1 tree / 4 DU's	64		
PROVIDED	**64 (This project may provide more than required)**				
HEIGHT	Project is in Height District 1.				
PERMITTED	No Limit				
PROPOSED	341'-0"	New Bulidng			
	34'-6"	Existing Bulidng			
PROPOSED STORIES	31	To the roof of the last occupied floor.			
VEHICLE PARKING	Per TOC Base Incentive for Tier 4, residential parking is not required. Per State Enterprise Zone, commercial parking is required at 1 per 500 sf.				
REQUIRED RESIDENTIAL PARKING	0				
PROVIDED RESIDENTIAL PARKING	Standard	Compact	Total		
	133	165	**298**		
REQUIRED COMMERCIAL PARKING	Area	Ratio	Stalls Required		
	2,507	1 per 500	6		
PROVIDED COMMERCIAL PARKING	Standard	Compact	Total		
	19	12	**31**		
TOTAL PARKING PROVIDED	**298+31=329**				
BICYCLE PARKING	Per Ordinance No. 185480 in regards to bicycle parking regulations.				
	Area (SF)	Short Term	Long Term		
Restaurant & Office within existing building		0	0	Section 12.21.A.16.c Change of Use. Buildings undergoing a change of use shall not be required to provide bicycle parking.	
Office in new building	2,507	(1 per 10,000 SF)	(1 per 5,000 SF)		
		0	1		
COMMERCIAL BIKE PARKING REQUIRED		2	2	Per Table 12.21 A.16 (a)(2) A minimum of 2 is required for Offices.	
COMMERCIAL BIKE PARKING PROVIDED		2	2		
Dwelling Units	Short Term		Long Term		
	Ratio	# Spaces Required	Ratio	# Spaces Required	
1-25	1 space per 10 units	3	1 space per unit	25	
26-100	1 space per 15 units	5	1 space per 1.5 units	50	
101-200	1 space per 20 units	5	1 space per 2 units	50	
201+	1 space per 40 units	2	1 space per4 units	14	
RESIDENTIAL BIKE PARKING REQUIRED		15		139	
RESIDENTIAL BIKE PARKING PROVIDED		15		139	
	Short Term		Long Term		
TOTAL BIKE PARKING PROVIDED	**2+15=17**		**2+139=141**		

Elevations

West Elevation

MATERIAL LEGEND

1. ALUMINUM FRAMED WINDOW SYSTEM C/W SEALED VISION GLASS and SPANDREL GLAZING UNIT: Tint TBD
2. GLAZED ALUMINUM GUARDRAIL Tint/Color TBD
3. ARCHITECTURAL METAL SCREEN: Color TBD
4. PAINTED CONCRETE (Existing)

5a. PAINTED CONCRETE Color TBD

5b. PAINTED CONCRETE Color TBD

6. PAINTED CONCRETE SLAB: Color TBD

TF SHATTO LP

CHRIS DIKEAKOS ARCHITECTURAL CORP

connect LANDSCAPE ARCHITECTURE

ENTITLEMENT APPLICATION

Soul
550 Shatto Place
Los Angeles, CA
90020, USA

Date
Nov. 6, 2018

Sheet Size
ARCH D 24 x 36

Elevations
West Elevation
Scale 1/20" = 1'–0"

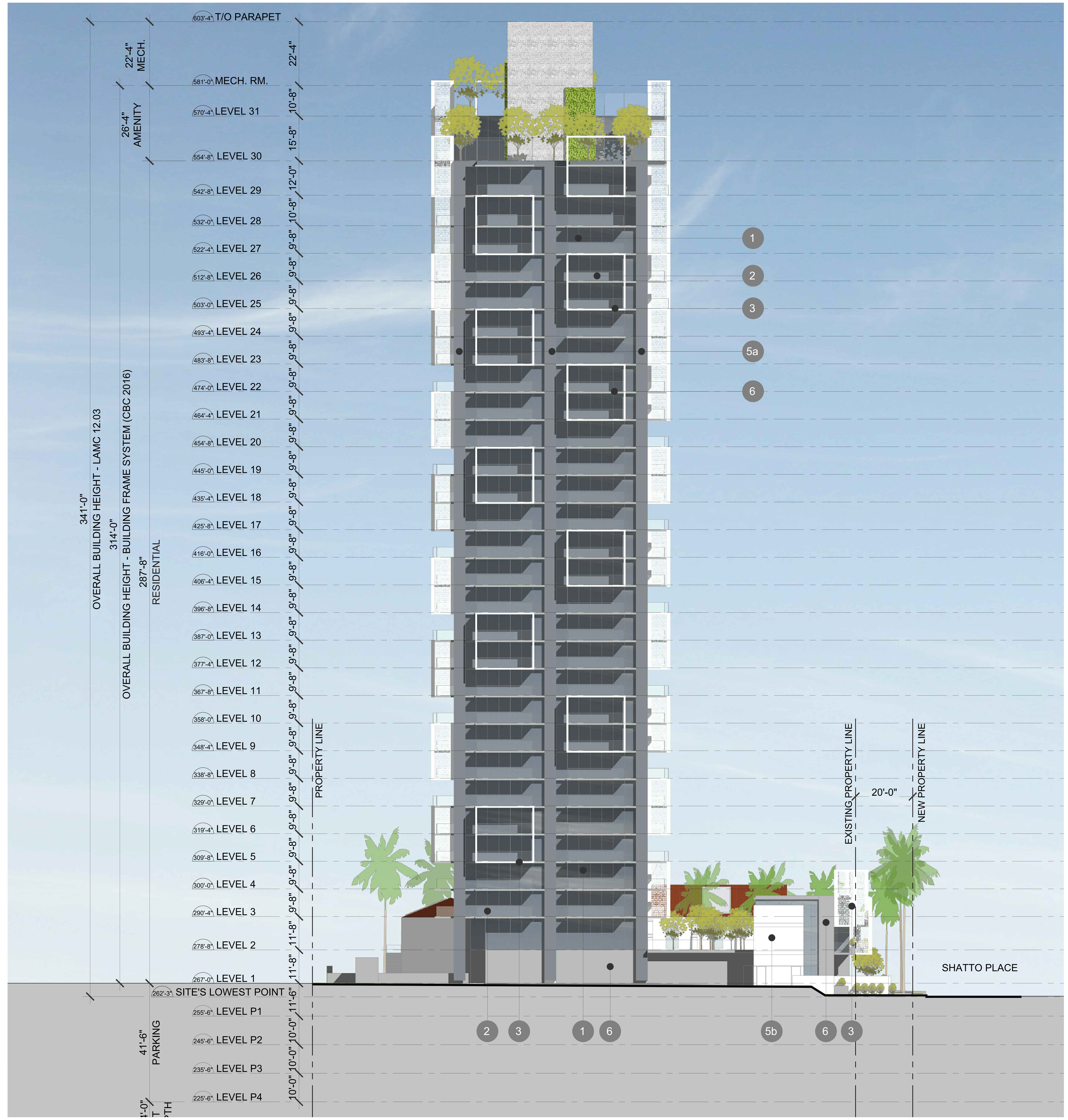
A3.00

East Elevation

MATERIAL LEGEND

1. ALUMINUM FRAMED WINDOW SYSTEM C/W SEALED VISION GLASS and SPANDREL GLAZING UNIT: Tint TBD
2. GLAZED ALUMINUM GUARDRAIL Tint/Color TBD
3. ARCHITECTURAL METAL SCREEN: Color TBD
4. PAINTED CONCRETE (Existing)
5a. PAINTED CONCRETE Color TBD
5b. PAINTED CONCRETE Color TBD
6. PAINTED CONCRETE SLAB: Color TBD

North Elevation



MATERIAL LEGEND

1. ALUMINUM FRAMED WINDOW SYSTEM C/W SEALED VISION GLASS and SPANDREL GLAZING UNIT: Tint TBD
2. GLAZED ALUMINUM GUARDRAIL Tint/Color TBD
3. ARCHITECTURAL METAL SCREEN: Color TBD
4. PAINTED CONCRETE (Existing)

5a. PAINTED CONCRETE Color TBD

5b. PAINTED CONCRETE Color TBD

6. PAINTED CONCRETE SLAB: Color TBD

South Elevation

MATERIAL LEGEND

1. ALUMINUM FRAMED WINDOW SYSTEM C/W SEALED VISION GLASS and SPANDREL GLAZING UNIT: Tint TBD
2. GLAZED ALUMINUM GUARDRAIL Tint/Color TBD
3. ARCHITECTURAL METAL SCREEN: Color TBD
4. PAINTED CONCRETE (Existing)

5a. PAINTED CONCRETE Color TBD

5b. PAINTED CONCRETE Color TBD

6. PAINTED CONCRETE SLAB: Color TBD

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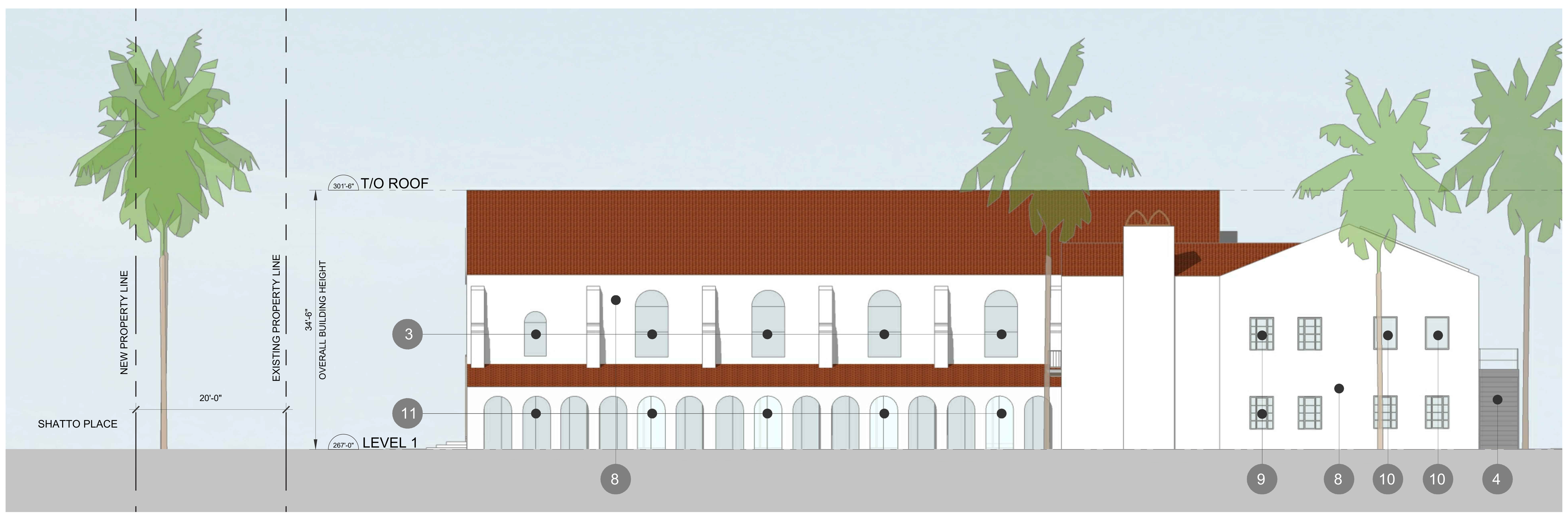
Elevations
South Elevation
Scale 1/20" = 1'–0"

Existing Building (North Elevation)



Existing Building (South Elevation facing Sixth Street)

Photographs of Existing Building

RENOVATION PROPOSAL

No.		
1	(N)	OPENING & STOREFRONT. WIDTH TO MATCH (E) WINDOW ABOVE
2	(N)	ELEVATOR BUILDING. EXTERIOR FINISH IN CONTRAST TO (E) CHURCH
3		RETAIN (E) WINDOW OUTER FRAME, REPLACE STAINED GLASS W/ REPATTERNED STAINED GLASS
4	(N)	DE-MOUNTABLE STAIR
5	(E)	WINDOW TO REMAIN
6		OPEN ARCHWAY TO OPEN AIR LOBBY (N) METAL GATE
7		ROSE WINDOW LOCATION CURRENTLY BOARDED UP. EXISTANCE AND CONDITION TBD
8	(E)	PLASTER TO BE REPAIRED AS NEEDED. PAINT TO MATCH EXISTING
9	(E)	STEEL WINDOW TO REMAIN
10	(N)	WINDOW AT EXISITNG LOCATION
11	(N)	WINDOW OPENINGS BEYOND AT INTERIOR WALL OF ARCADE
12	(N)	WALL OPENING & STOREFRONT
13	(N)	GLASS PANELED DOOR. ORIGINAL WOOD DOOR TO BE STORED
14	(N)	SKYLIGHT

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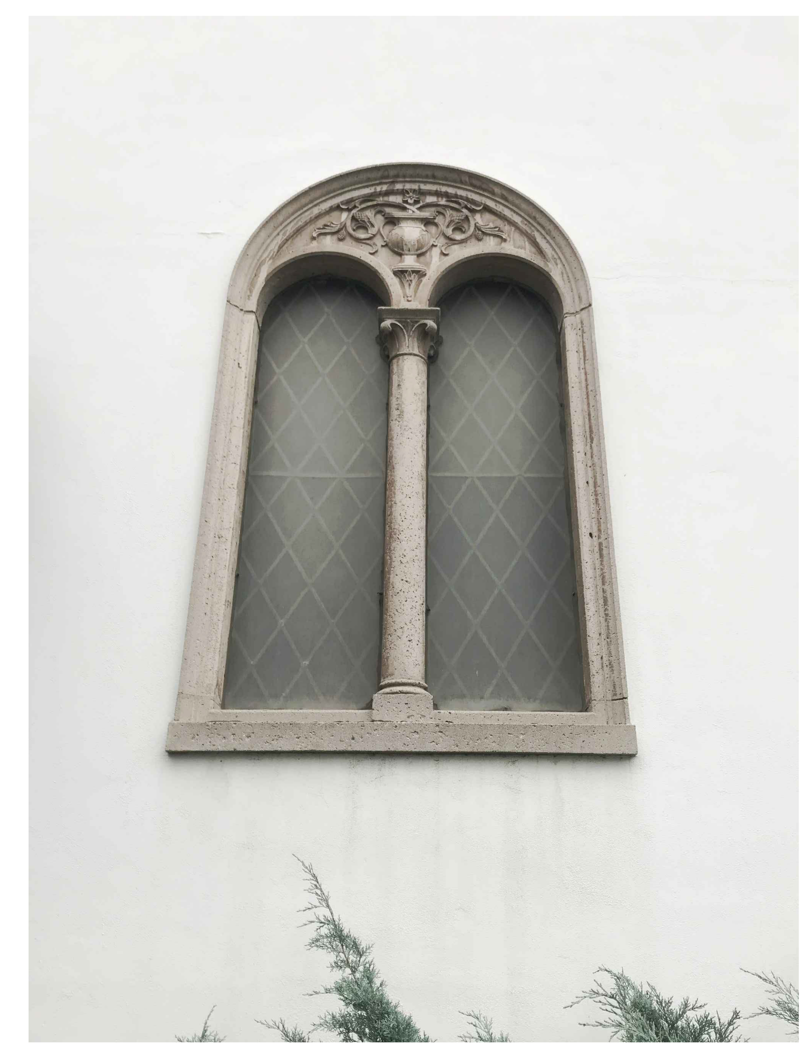
Elevations
Existing Building
North & South Elevations/Photographs
Scale 3/32" = 1'–0"

A3.04

West Elevation

East Elevation



Photographs of Existing Building

RENOVATION PROPOSAL

1	(N)	OPENING & STOREFRONT. WIDTH TO MATCH (E) WINDOW ABOVE
2	(N)	ELEVATOR BUILDING. EXTERIOR FINISH IN CONTRAST TO (E) CHURCH
3		RETAIN (E) WINDOW OUTER FRAME, REPLACE STAINED GLASS W/ REPATTERNED STAINED GLASS
4	(N)	DE-MOUNTABLE STAIR
5	(E)	WINDOW TO REMAIN
6		OPEN ARCHWAY TO OPEN AIR LOBBY (N) METAL GATE
7		ROSE WINDOW LOCATION CURRENTLY BOARDED UP. EXISTANCE AND CONDITION TBD
8	(E)	PLASTER TO BE REPAIRED AS NEEDED. PAINT TO MATCH EXISTING
9	(E)	STEEL WINDOW TO REMAIN
10	(N)	WINDOW AT EXISITNG LOCATION
11	(N)	WINDOW OPENINGS BEYOND AT INTERIOR WALL OF ARCADE
12	(N)	WALL OPENING & STOREFRONT
13	(N)	GLASS PANELED DOOR. ORIGINAL WOOD DOOR TO BE STORED
14	(N)	SKYLIGHT

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Nov. 6, 2018

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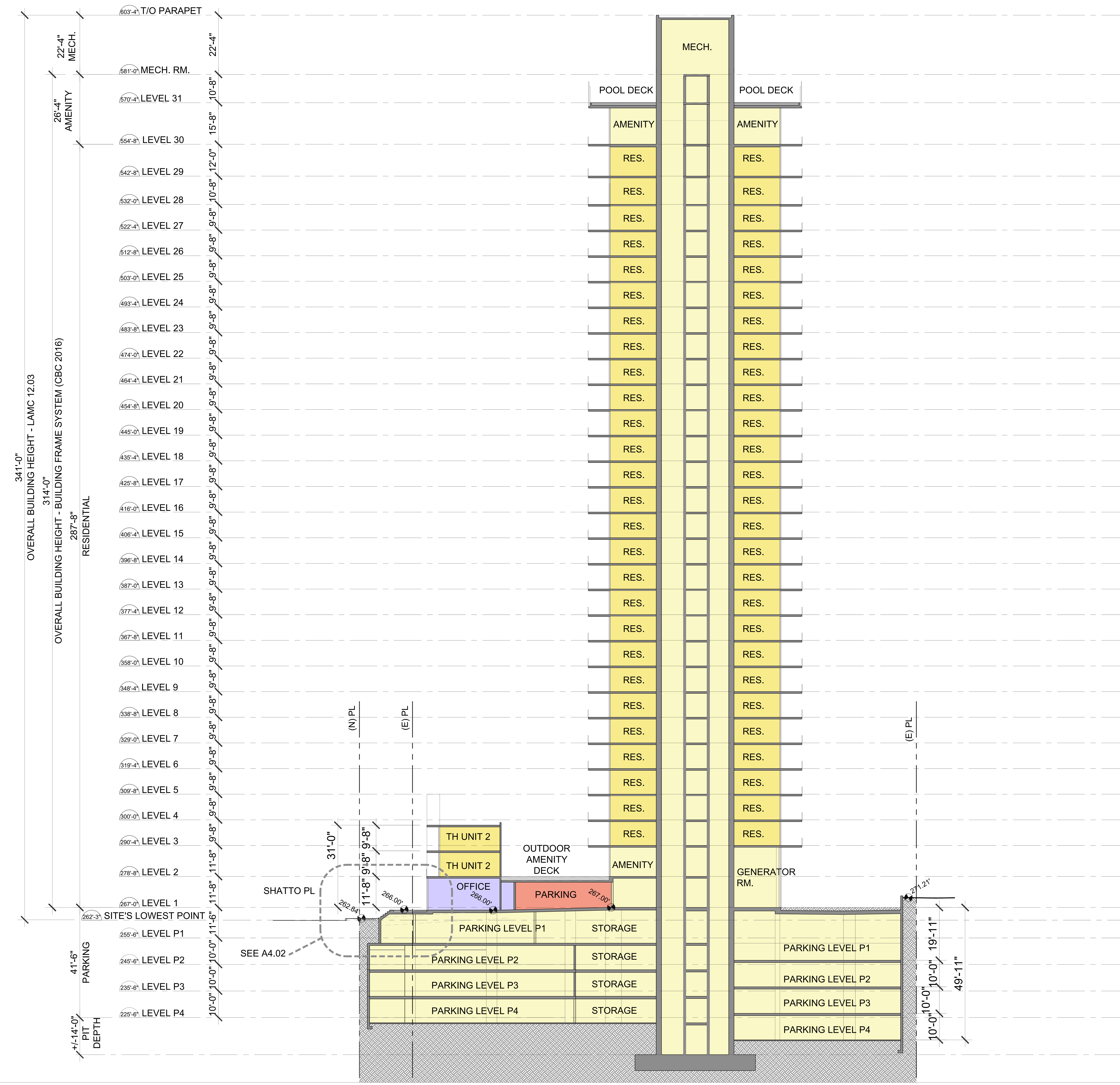
Elevations
Existing Building
West & East Elevations/Photographs
Scale $^{3}/_{32}$" = 1'–0"

A3.05

Section A – A

- Commercial Parking
- Residential Parking / Common Areas
- Residential Areas



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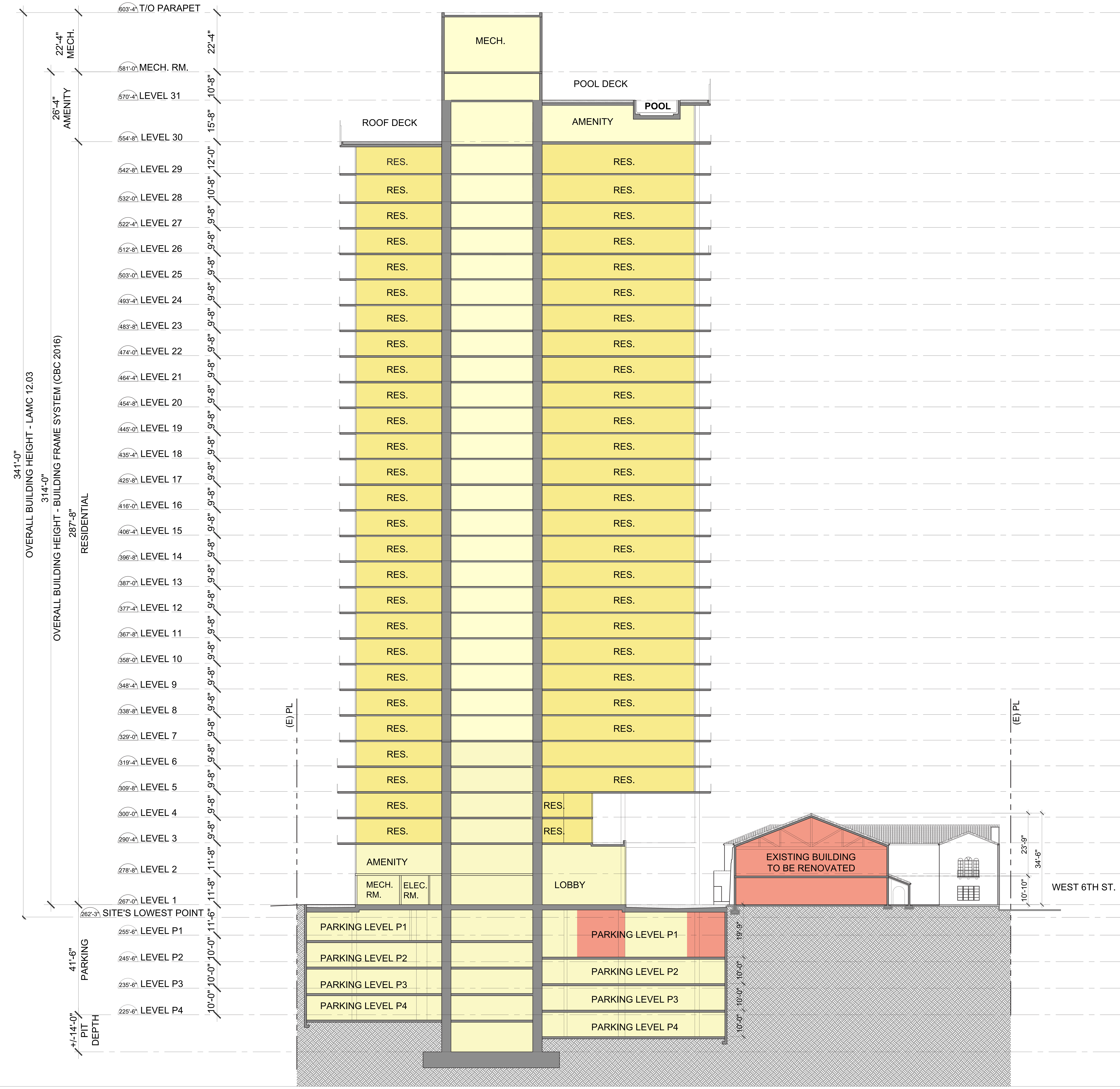
Building Sections
Section A-A
Scale 1/20" = 1'–0"

Section B – B

- Commercial / Commercial Parking
- Residential Parking / Common Areas
- Residential Areas



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Building Sections
Section B-B
Scale 1/20" = 1'–0"

A4.01

View of Southwest Corner at Shatto Place & W 6th Street

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Renderings
View of Southwest Corner at Shatto Place & W 6th Street

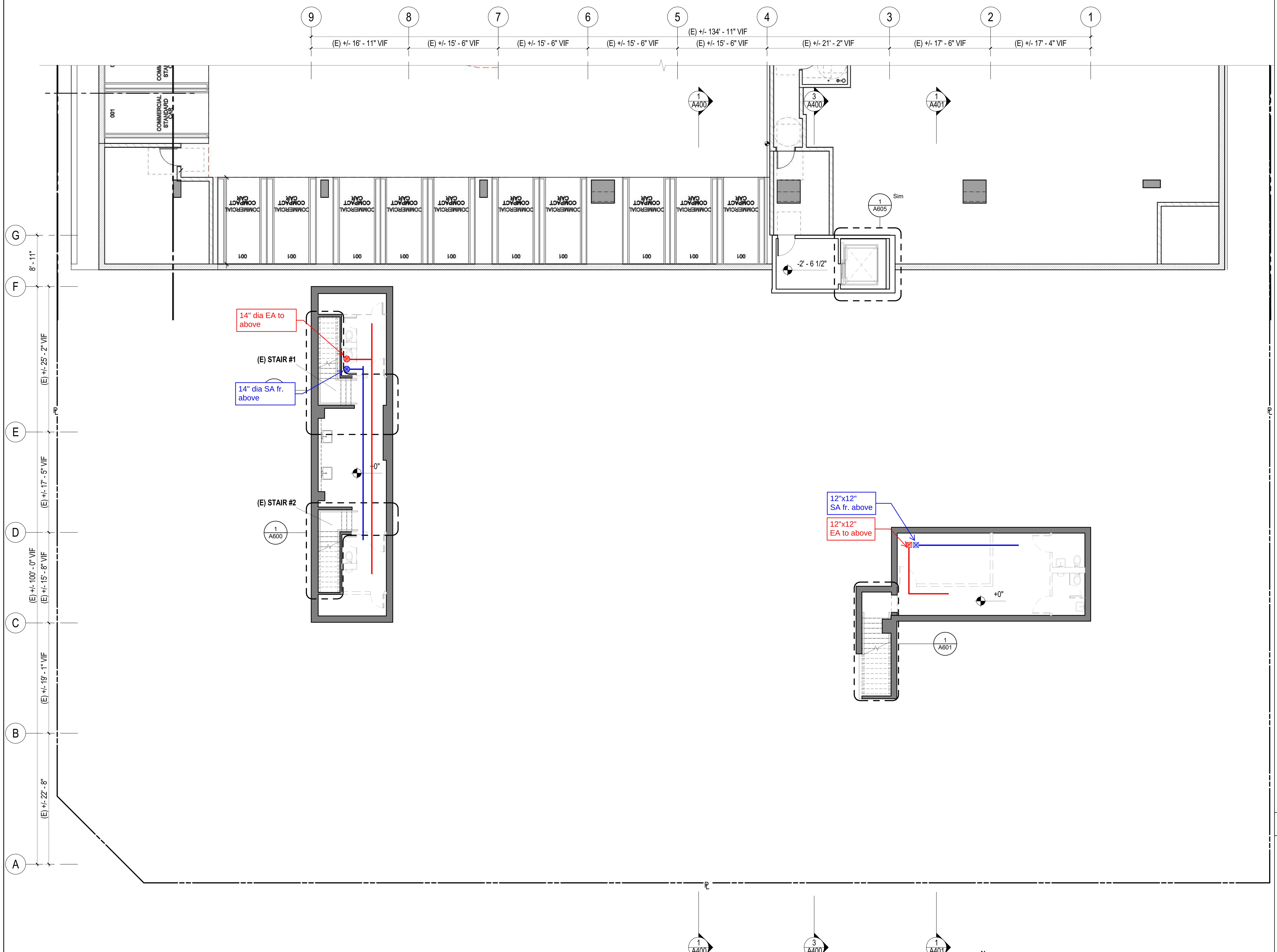
A5.01

Street view of West Elevation

Street view of Southwest Corner at Shatto Place & W 6th Street

Street view of Offices and Townhomes along Shatto Place

Street view of South Elevation along W 6th Street



BASEMENT PLAN
1/8" = 1'-0"

NOTES

N1. (N) DOOR OPENING. WIDTH TO MATCH (E) WINDOW ABOVE
N2. (N) ELEVATOR BUILDING. EXTERIOR FINISH IN CONTRAST TO (E) CHURCH
N3. 30' X 38' DWP STAGING AREA
N4. (N) DE-MOUNTABLE STAIR ABOVE
N5. (E) FIREPLACE
N6. (N) BI-FOLD DOOR OPENING BEYOND AT INTERIOR WALL OF ARCADE
N7. (N) SKYLIGHT
N8. (N) DEMOUNTABLE GLASS SCREEN WITH STEEL FRAME SYSTEM. SEE SHEET A821 FOR DETAIL.
N9. (N) SKYLIGHT ABOVE
N10. (N) DE-MOUNTABLE GATE
N11. (N) ELEVATOR PIT
N12. (N) 5' X 7' ELEVATOR CONTROL ROOM

LEGEND

- (E) WALL OR COLUMN
- (N) WALL
- (N)/(E) 2-HR RATED WALL
- (E) 3-HR RATED WALL
- POTENTIAL DEMISING WALL
- WATER CURTAIN

omgivning
architects interior designers urbanists

SHATTO CHURCH
3119 West 6th Street, Los Angeles, 90020

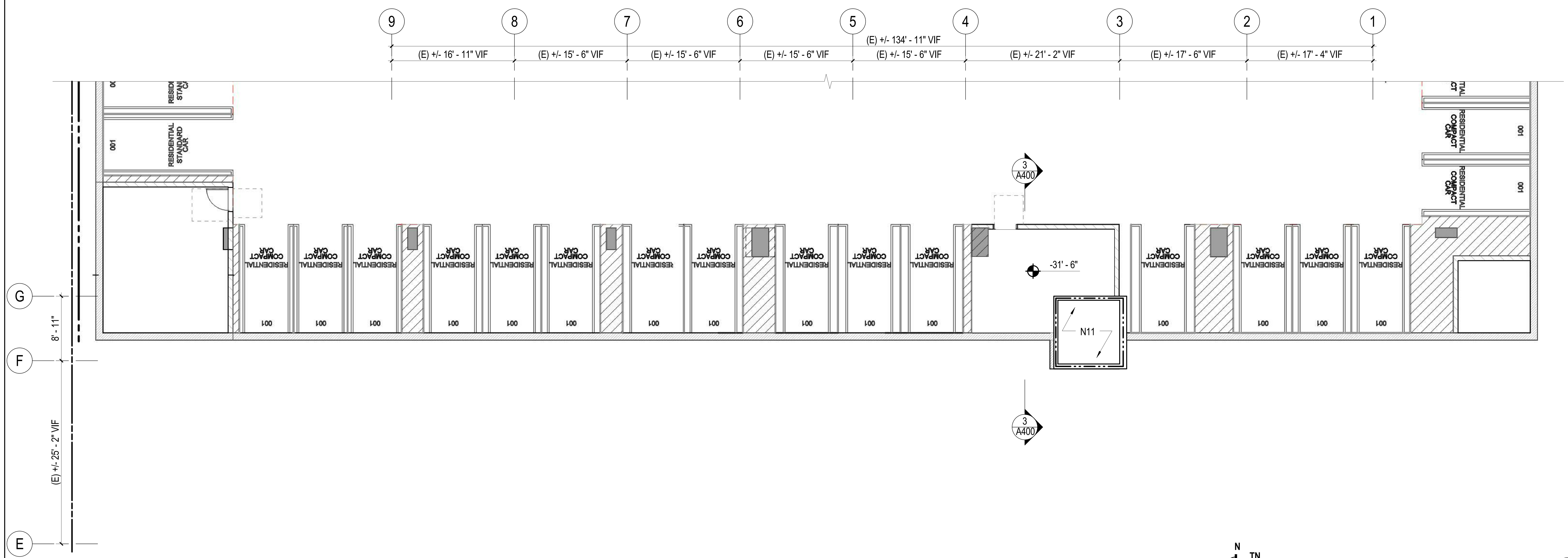
SCHEMATIC DESIGN

TF SHATTO LP.
11400 W OLYMPIC BLVD, SUITE 850
LOS ANGELES, CA 90064

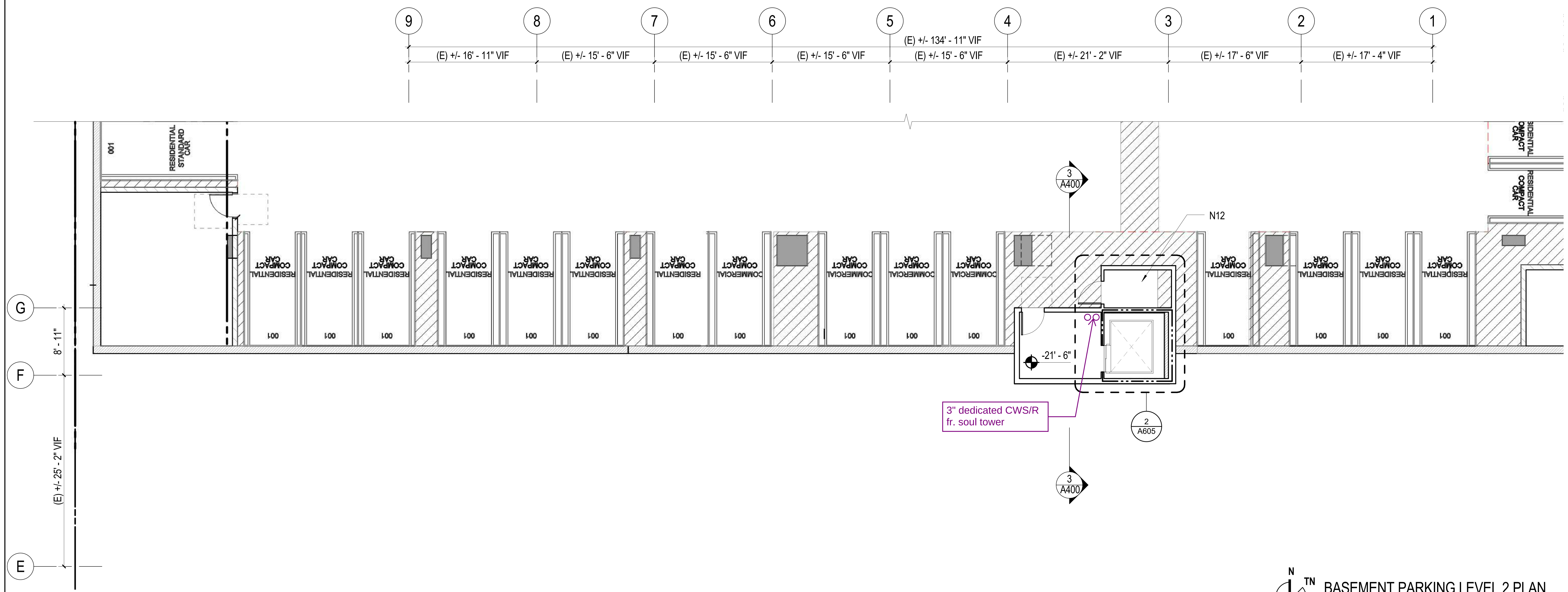
DRAFT

REVISIONS:

JOB NO.: 18 - 014
DATE: 11.7.18
SCALE: 1/8" = 1'-0"
SHEET TITLE: BASEMENT PLAN
SHEET NUMBER: A100



BASEMENT PARKING LEVEL P3 PLAN 3
1/8" = 1'-0"



BASEMENT PARKING LEVEL 2 PLAN 1
1/8" = 1'-0"

NOTES

- N1. (N) DOOR OPENING. WIDTH TO MATCH (E) WINDOW ABOVE
- N2. (N) ELEVATOR BUILDING. EXTERIOR FINISH IN CONTRAST TO (E) CHURCH
- N3. 30' X 38' DWP STAGING AREA
- N4. (N) DE-MOUNTABLE STAIR ABOVE
- N5. (E) FIREPLACE
- N6. (N) BI-FOLD DOOR OPENING BEYOND AT INTERIOR WALL OF ARCADE
- N7. (N) SKYLIGHT
- N8. (N) DEMOUNTABLE GLASS SCREEN WITH STEEL FRAME SYSTEM. SEE SHEET A821 FOR DETAIL.
- N9. (N) SKYLIGHT ABOVE
- N10. (N) DE-MOUNTABLE GATE
- N11. (N) ELEVATOR PIT
- N12. (N) 5' X 7' ELEVATOR CONTROL ROOM

omgivning
architects interior designers urbanists
724 S Spring St, Suite 501 Los Angeles California, 90014 office 213.596.5602

SHATTO CHURCH

3119 West 6th Street, Los Angeles, 90020

SCHEMATIC DESIGN

TF SHATTO LP.
11400 W OLYMPIC BLVD, SUITE 850
LOS ANGELES, CA 90064

DRAFT

REVISIONS:

JOB NO.: 18 - 014

DATE: 11.7.18

SCALE: 1/8" = 1'-0"

SHEET TITLE: BASEMENT PARKING LEVELS

SHEET NUMBER: A100P

1ST FLOOR PLAN
1/8" = 1'-0"
1

3/8/2019 10:03:55 AM

NOTES

- N1. (N) DOOR OPENING. WIDTH TO MATCH (E) WINDOW ABOVE
- N2. (N) ELEVATOR BUILDING. EXTERIOR FINISH IN CONTRAST TO (E) CHURCH
- N3. 30' X 38' DWP STAGING AREA
- N4. (N) DE-MOUNTABLE STAIR ABOVE
- N5. (E) FIREPLACE
- N6. (N) BI-FOLD DOOR OPENING BEYOND AT INTERIOR WALL OF ARCADE
- N7. (N) SKYLIGHT
- N8. (N) DEMOUNTABLE GLASS SCREEN WITH STEEL FRAME SYSTEM. SEE SHEET A821 FOR DETAIL.
- N9. (N) SKYLIGHT ABOVE
- N10. (N) DE-MOUNTABLE GATE
- N11. (N) ELEVATOR PIT
- N12. (N) 5' X 7' ELEVATOR CONTROL ROOM

LEGEND

- (E) WALL OR COLUMN
- (N) WALL
- (N)/(E) 2-HR RATED WALL
- (E) 3-HR RATED WALL
- POTENTIAL DEMISING WALL
- WATER CURTAIN

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724 S Spring St, Suite 501 Los Angeles California, 90014 office 213.596.5602

SHATTO CHURCH

3119 West 6th Street, Los Angeles, 90020

SCHEMATIC DESIGN

TF SHATTO LP.
11400 W OLYMPIC BLVD, SUITE 850
LOS ANGELES, CA 90064

DRAFT

REVISIONS:

JOB NO.: 18 - 014

DATE: 11.7.18

SCALE: 1/8" = 1'-0"

SHEET TITLE: 1ST FLOOR PLAN

SHEET NUMBER: A101

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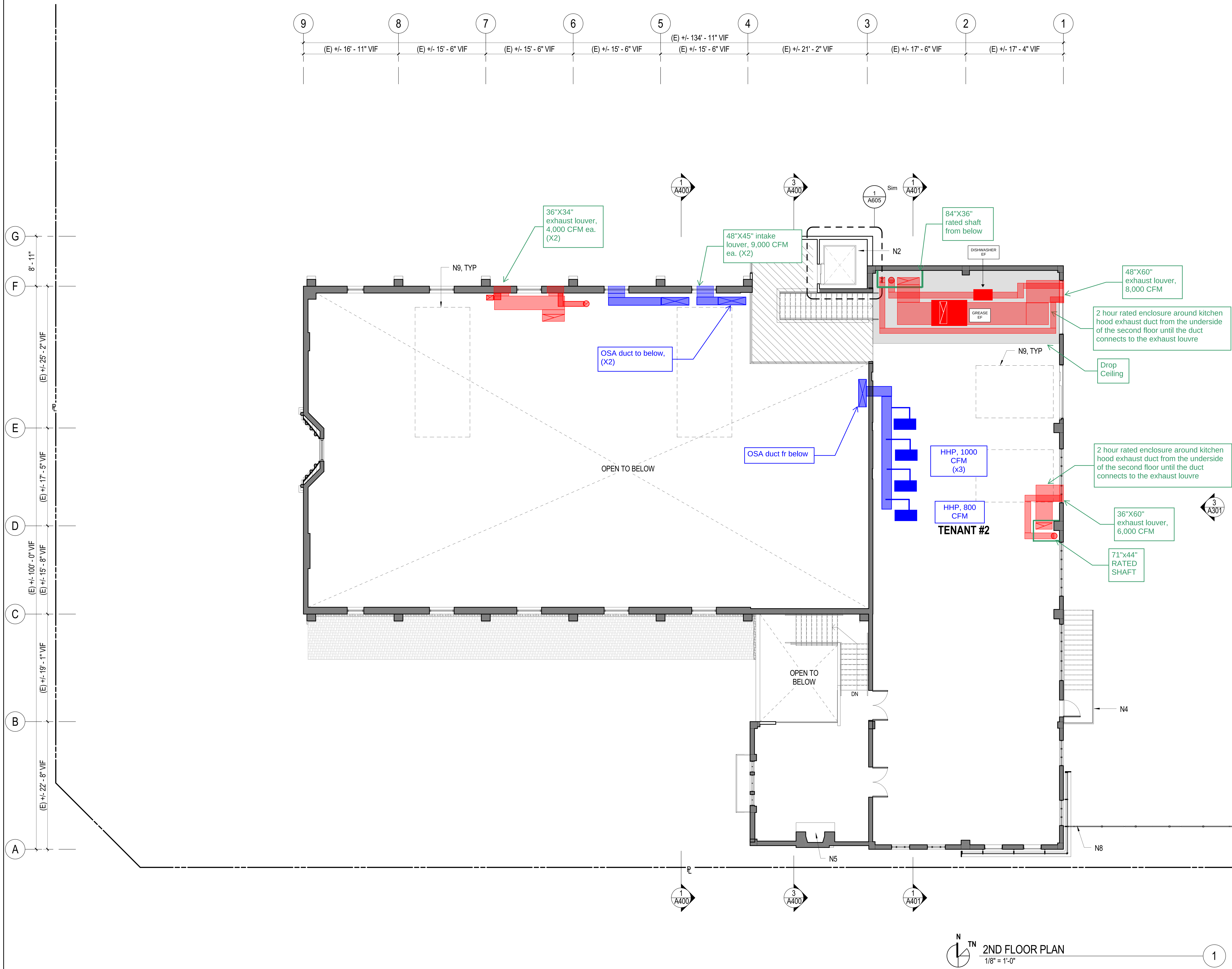

2ND FLOOR PLAN
1/8" = 1'-0"
1

NOTES

- N1. (N) DOOR OPENING. WIDTH TO MATCH (E) WINDOW ABOVE
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- N3. 30' X 38' DWP STAGING AREA
- N4. (N) DE-MOUNTABLE STAIR ABOVE
- N5. (E) FIREPLACE
- N6. (N) BI-FOLD DOOR OPENING BEYOND AT INTERIOR WALL OF ARCADE
- N7. (N) SKYLIGHT
- N8. (N) DEMOUNTABLE GLASS SCREEN WITH STEEL FRAME SYSTEM. SEE SHEET A821 FOR DETAIL.
- N9. (N) SKYLIGHT ABOVE
- N10. (N) DE-MOUNTABLE GATE
- N11. (N) ELEVATOR PIT
- N12. (N) 5' X 7' ELEVATOR CONTROL ROOM

LEGEND

- (E) WALL OR COLUMN
- (N) WALL
- (N)/(E) 2-HR RATED WALL
- (E) 3-HR RATED WALL
- POTENTIAL DEMISING WALL
- WATER CURTAIN

omgivning architects interior designers urbanists
724 S Spring St, Suite 501 Los Angeles California, 90014 office 213.596.5602

SHATTO CHURCH
3119 West 6th Street, Los Angeles, 90020

SCHEMATIC DESIGN

TF SHATTO LP.
11400 W OLYMPIC BLVD, SUITE 850
LOS ANGELES, CA 90064

DRAFT

REVISIONS:

JOB NO.: 18 - 014

DATE: 11.7.18

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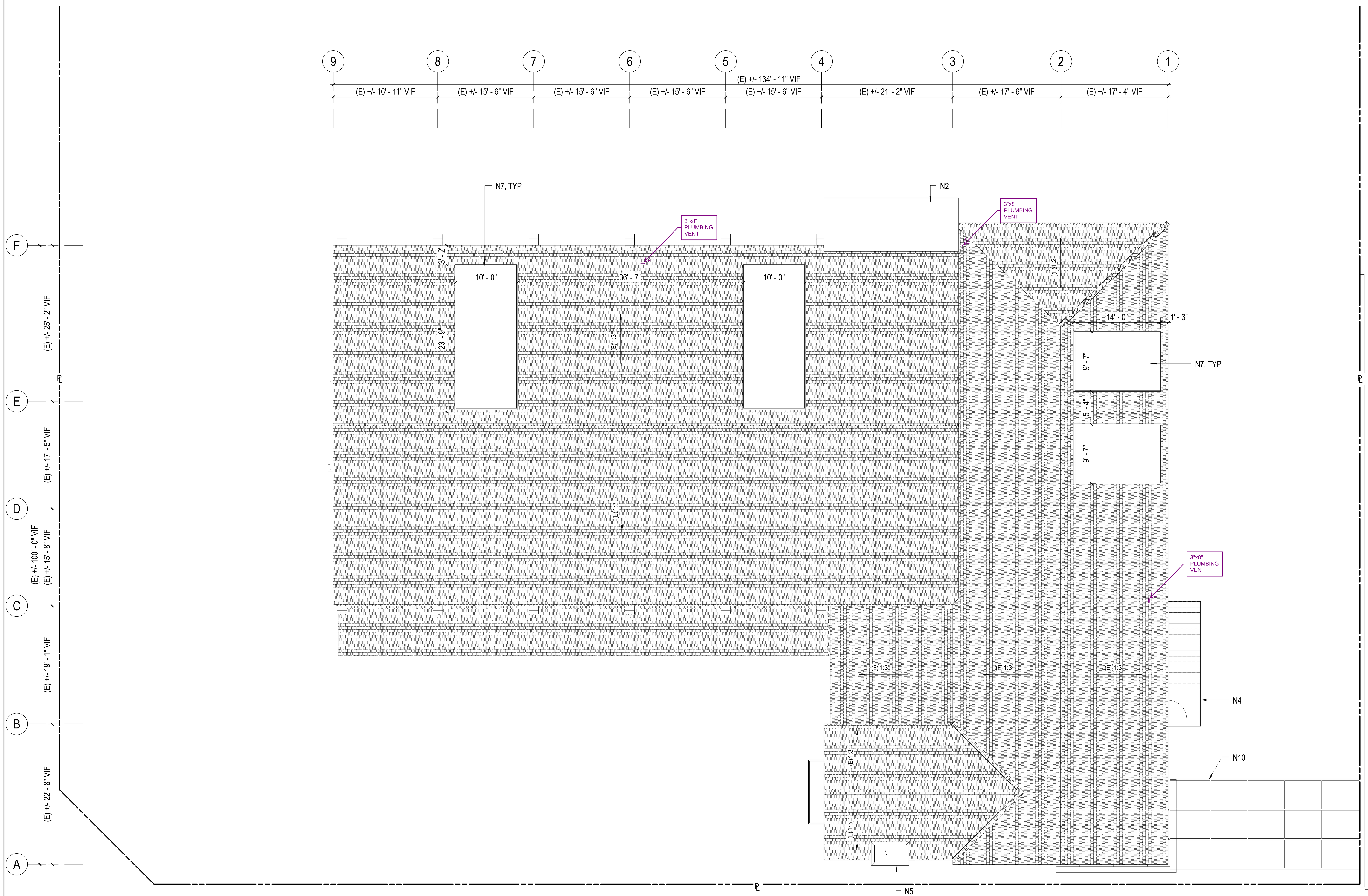
SHEET TITLE: 2ND FLOOR PLAN

SHEET NUMBER: A102



ROOF PLAN 1
1/8" = 1'-0"

NOTES

- N1. (N) DOOR OPENING. WIDTH TO MATCH (E) WINDOW ABOVE
- N2. (N) ELEVATOR BUILDING. EXTERIOR FINISH IN CONTRAST TO (E) CHURCH
- N3. 30' X 38' DWP STAGING AREA
- N4. (N) DE-MOUNTABLE STAIR ABOVE
- N5. (E) FIREPLACE
- N6. (N) BI-FOLD DOOR OPENING BEYOND AT INTERIOR WALL OF ARCADE
- N7. (N) SKYLIGHT
- N8. (N) DEMOUNTABLE GLASS SCREEN WITH STEEL FRAME SYSTEM. SEE SHEET A821 FOR DETAIL.
- N9. (N) SKYLIGHT ABOVE
- N10. (N) DE-MOUNTABLE GATE

LEGEND

- (E) WALL OR COLUMN
- (N) WALL
- (N)/(E) 2-HR RATED WALL
- (E) 3-HR RATED WALL
- POTENTIAL DEMISING WALL
- WATER CURTAIN

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SHATTO CHURCH
3119 West 6th Street, Los Angeles, 90020

SCHEMATIC DESIGN

TF SHATTO LP.
11400 W OLYMPIC BLVD, SUITE 850
LOS ANGELES, CA 90064

DRAFT

REVISIONS:

JOB NO.: 18 - 014
DATE: 11.7.18
SCALE: 1/8" = 1'-0"
SHEET TITLE: ROOF PLAN
SHEET NUMBER: A103

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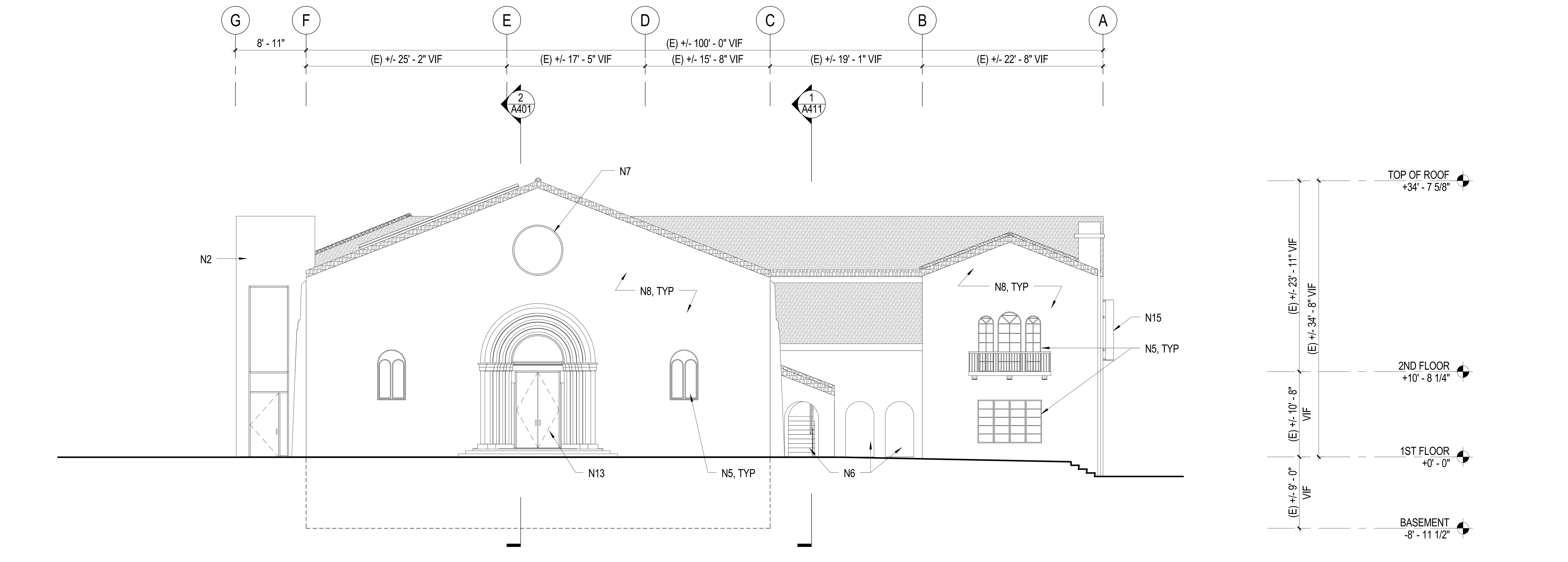
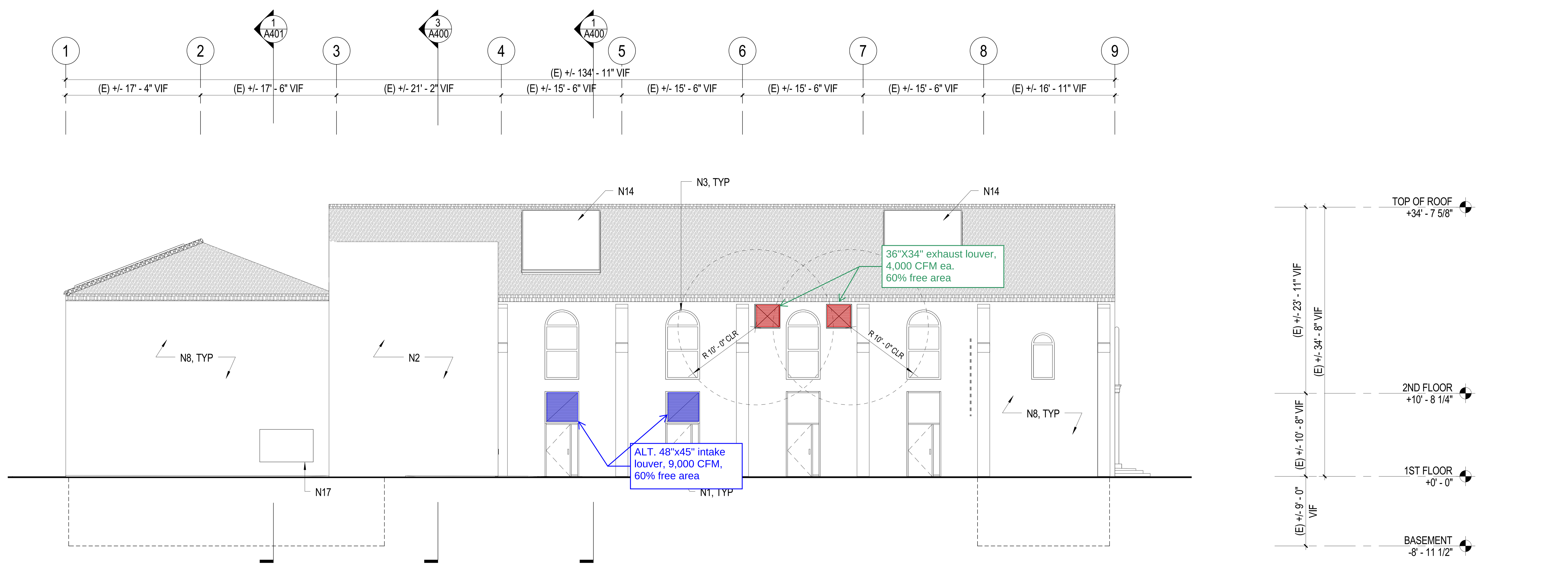


EXTERIOR ELEVATION - WEST 3

1/8" = 1'-0"



EXTERIOR ELEVATION - NORTH 1

1/8" = 1'-0"

NOTES

- N1. (N) OPENING & STOREFRONT. WIDTH TO MATCH (E) WINDOW ABOVE
- N2. (N) ELEVATOR BUILDING. EXTERIOR FINISH IN CONTRAST TO (E) CHURCH
- N3. RETAIN (E) WINDOW OUTER FRAME, REPLACE (E) STAINED GLASS W/ REPATTERNED STAINED GLASS
- N4. NOT USED
- N5. (E) WINDOW TO REMAIN
- N6. OPEN ARCHWAY TO OPEN AIR LOBBY - (N) METAL GATE
- N7. ROSE WINDOW LOCATION CURRENTLY, SCOPE BOARDED UP. EXISTANCE AND CONDITION TBD
- N8. (E) PLASTER TO BE REPAIRED AS NEEDED. PAINT TO MATCH EXISTING
- N9. (E) STEEL WINDOW TO REMAIN
- N10. (N) WINDOW AT EXISITNG LOCATION
- N11. (N) WINDOW OPENINGS BEYOND AT INTERIOR WALL OF ARCADE
- N12. (N) WALL OPENING & STOREFRONT
- N13. (N) GLASS PANELED DOOR. ORIGINAL WOOD DOOR TO BE STORED
- N14. (N) SKYLIGHT
- N15. (N) DE-MOUNTABLE GATE / GLASS FACADE SCREEN SYSTEM. DESIGN BUILD NOT A PART.
- N16. (N) OR (E) FIXED WINDOW OR DOOR
- N17. INFILL (E) WINDOW (N) CONC INFILL

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SHATTO CHURCH

3119 West 6th Street, Los Angeles, 90020

DESIGN DEVELOPMENT

TF SHATTO LP.
11400 W OLYMPIC BLVD, SUITE 850
LOS ANGELES, CA 90064

DRAFT

REVISIONS:

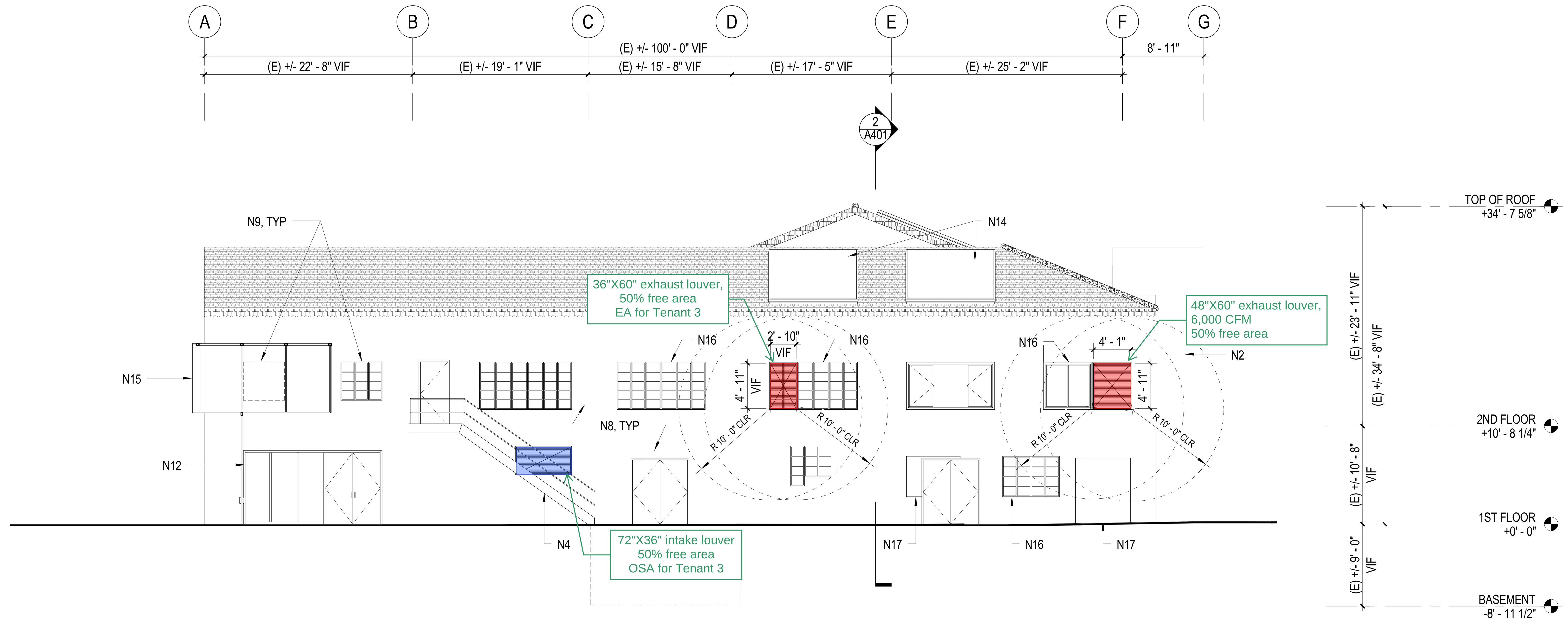
JOB NO.: 18 - 014

DATE: 4.23.19

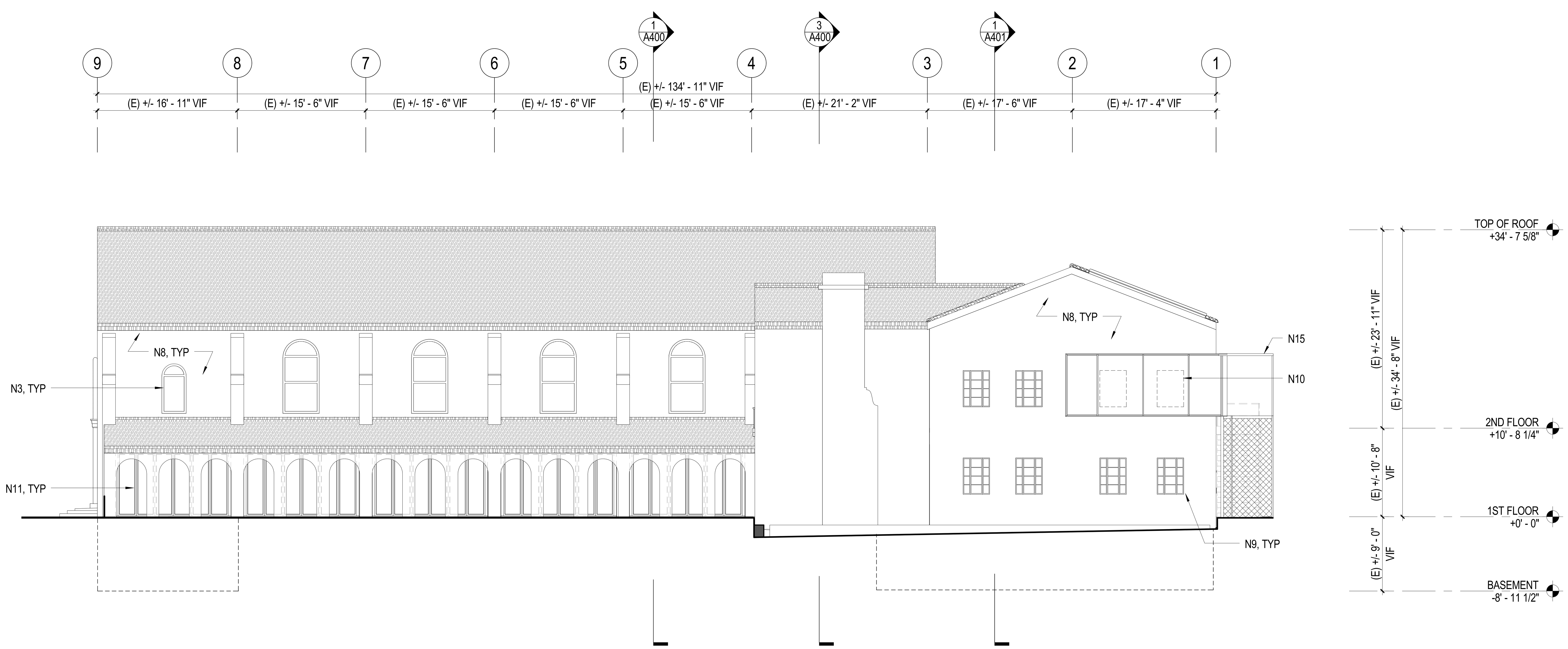
SCALE: 1/8" = 1'-0"

SHEET TITLE: EXTERIOR ELEVATIONS

SHEET NUMBER: A300



EXTERIOR ELEVATION -EAST 3
1/8" = 1'-0"



EXTERIOR ELEVATION - SOUTH 1
1/8" = 1'-0"

NOTES

- N1. (N) OPENING & STOREFRONT. WIDTH TO MATCH (E) WINDOW ABOVE
- N2. (N) ELEVATOR BUILDING. EXTERIOR FINISH IN CONTRAST TO (E) CHURCH
- N3. RETAIN (E) WINDOW OUTER FRAME, REPLACE (E) STAINED GLASS W/ REPATTERNED STAINED GLASS
- N4. NOT USED
- N5. (E) WINDOW TO REMAIN
- N6. OPEN ARCHWAY TO OPEN AIR LOBBY - (N) METAL GATE
- N7. ROSE WINDOW LOCATION CURRENTLY, SCOPE BOARDED UP. EXISTANCE AND CONDITION TBD
- N8. (E) PLASTER TO BE REPAIRED AS NEEDED. PAINT TO MATCH EXISTING
- N9. (E) STEEL WINDOW TO REMAIN
- N10. (N) WINDOW AT EXISITNG LOCATION
- N11. (N) WINDOW OPENINGS BEYOND AT INTERIOR WALL OF ARCADE
- N12. (N) WALL OPENING & STOREFRONT
- N13. (N) GLASS PANELED DOOR. ORIGINAL WOOD DOOR TO BE STORED
- N14. (N) SKYLIGHT
- N15. (N) DE-MOUNTABLE GATE / GLASS FACADE SCREEN SYSTEM. DESIGN BUILD NOT A PART.
- N16. (N) OR (E) FIXED WINDOW OR DOOR
- N17. INFILL (E) WINDOW (N) CONC INFILL

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SHATTO CHURCH

3119 West 6th Street, Los Angeles, 90020

DESIGN DEVELOPMENT

TF SHATTO LP.
11400 W OLYMPIC BLVD, SUITE 850
LOS ANGELES, CA 90064

DRAFT

REVISIONS:

JOB NO.: 18 - 014

DATE: 4.23.19

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SHEET NUMBER: A301

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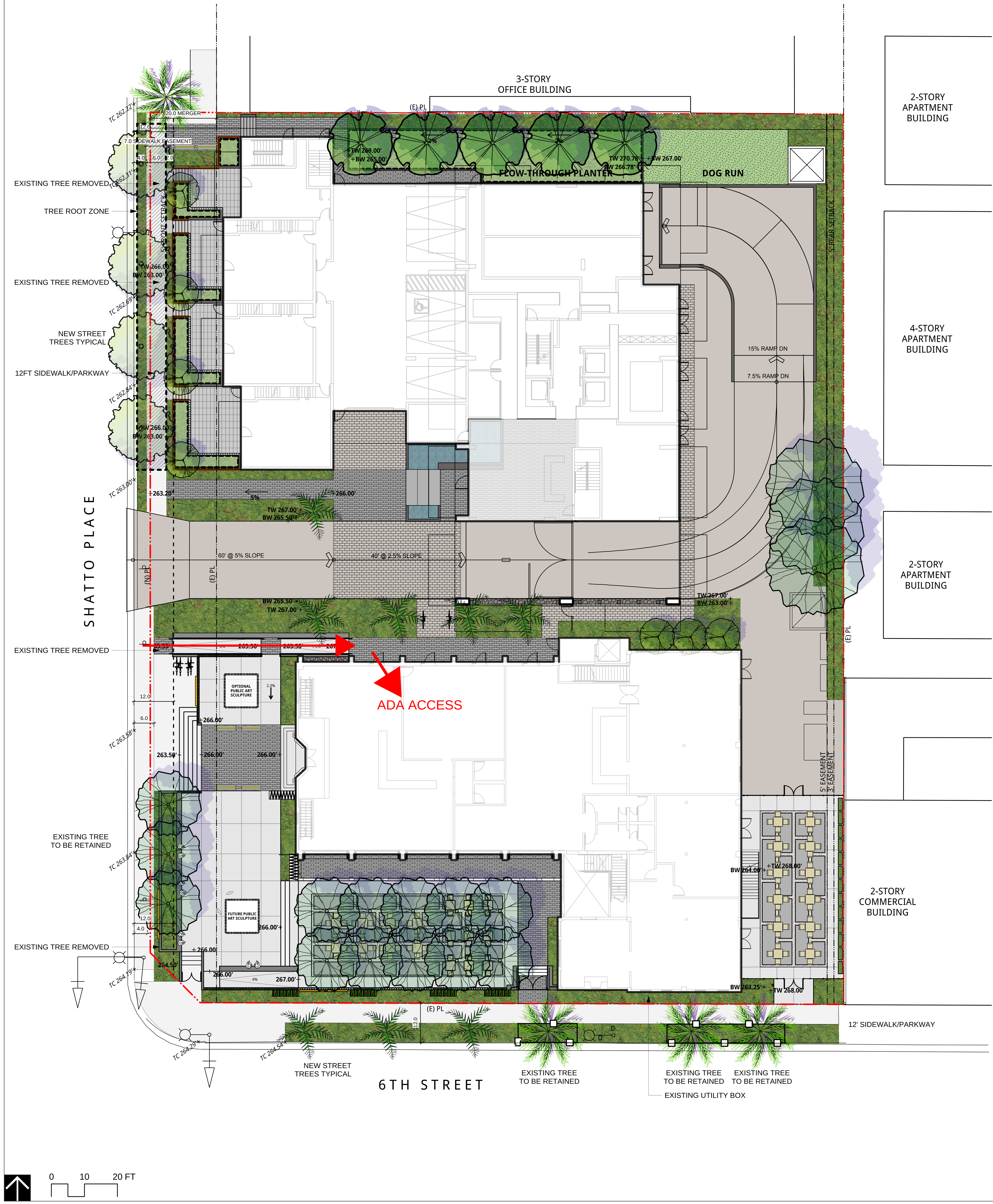


MATERIALS LEGEND

- PLANTED AREA
- CIP CONCRETE PAVING
- PEDESTRIAN UNIT PAVERS
- VEHICULAR UNIT PAVERS
- PATIO SLAB PAVERS
- CIP CONCRETE WALL
- METAL PLANTER WALL
- GUARDRAIL
- FLOW-THROUGH PLANTER
- GRAVEL SURFACE
- WOOD PAVING
- PROPOSED TREE

connect
LANDSCAPE ARCHITECTURE

2305 Hemlock St, Vancouver BC, V6H 2V1
T 604 681 3303 F 604 681 3307
www.connectla.ca

CONNECT LANDSCAPE ARCHITECTURE INC. DOES NOT GUARANTEE THE EXISTENCE, LOCATION, AND ELEVATION OF UTILITIES AND / OR CONCEALED STRUCTURES AT THE PROJECT SITE.

THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXISTENCE, LOCATION, AND ELEVATION OF ALL UTILITIES AND / OR CONCEALED STRUCTURES, AND IS RESPONSIBLE FOR NOTIFYING THE APPROPRIATE COMPANY, DEPARTMENT OR PERSON(S) OF ITS INTENTION TO CARRY OUT ITS OPERATIONS.

4	ISSUED FOR ENTITLEMENT APPLICATION	18-07-05
3	ISSUED FOR REVIEW	18-06-06
2	ISSUED FOR REVIEW	18-05-16
1	ISSUED FOR REVIEW	18-03-12
REVISIONS		YY-MM-DD

MIXED-USE DEVELOPMENT

550 Shatto PL & 6th ST
Los Angeles, CA

Scale:	1/16"=1'0"
Drawn:	KD
Reviewed:	DS
Project No.	06-603

LAYOUT & MATERIALS LEVEL 1

L1.0

Appendix E
Hazards

2024 Mitigation Monitoring Program Addendum

REPORT DATE: March 15, 2024

SITE INFORMATION
514 and 550 Shatto Place
Los Angeles, California 90020

PROJECT INFORMATION
AEI Project No. 490791

PREPARED FOR
Townline
450 SW Marine Drive, Suite 1212
Vancouver, British Columbia
Canada V5X 0C3
Attn: Mr. Chase Pense

PREPARED BY
AEI Consultants
701 Campus Square West, Suite 723A
El Segundo, California 90245

1.800.801.3224
www.aeiconsultants.com

AEI Consultants
701 Campus Square West, Suite 723A
El Segundo, California 90245

March 15, 2024

Mr. Chase Pense
Townline
450 SW Marine Drive, Suite 1212
Vancouver, British Columbia V5X 0C3

Subject: 2024 Mitigation Monitoring Program Addendum
514 and 550 Shatto Place
Los Angeles, California 90020
AEI Project No. 490791

Dear Mr. Pense,

This report presents the 2024 Mitigation Monitoring Program Addendum (MMP Addendum) prepared by AEI Consultants (AEI) for the property at 514 and 550 Shatto Place, Los Angeles, California to document any changes to the planned construction and assess whether the MMP Addendum remains adequate for this project. This report was prepared in general accordance with the scope of services outlined in AEI's proposal number 95293, dated March 12, 2024, and authorized on March 13, 2024.

AEI appreciates the opportunity to support this important project. If you have any questions, please do not hesitate to contact me.

Sincerely,

KLamb

Kate Lamb
Regional Director

AEI Consultants
701 Campus Square W, Suite 723A
El Segundo, California 90245
773.655.1263
Email: klamb@aeiconsultants.com

TABLE OF CONTENTS

1.0 PURPOSE

A Mitigation Monitoring Program (MMP) Addendum identifies measures to be undertaken to facilitate mitigation measures identified in a Sustainable Communities Environmental Assessment (SCEA). Implementation of these measures diminish environmental effects associated with a redevelopment project.

The purpose of this 2024 MMP Addendum is to update AEI's *Updated Mitigation Monitoring Program Addendum* dated July 11, 2020 and to discuss alterations made to the updated redevelopment plans for the Site, if any.

2.0 SITE DESCRIPTION AND BACKGROUND

The Site is located on the eastern side of Shatto Place between 5th Street (to the north) and 6th Street (to the South) in Los Angeles, California.

In 2020, redevelopment plans called for construction of a 24-story mixed-use (commercial and residential) building with four levels of subterranean parking. It is AEI's understanding that the 2024 redevelopment plans include the construction of an 8-story mixed-use building with two levels of subterranean parking. The footprint of the 2024 redevelopment plans remains the same. The adjacent building to the south currently housing a church will be redeveloped into a restaurant.

AEI was provided with the following documents for the project:

- *Phase I Environmental Site Assessment, 3119 West 6th Street, Los Angeles, California.* Hazard Management Consulting, San Clemente, California. October 3, 2017.
- *Subsurface Investigation Report, 3119 West 6th Street, Los Angeles, California.* Hazard Management Consulting, San Clemente, California. September 20, 2018.
- *Sustainable Communities Environmental Assessment, 522, 530 and 550 South Shatto Place; 3119 West 6th Street, Los Angeles, California.* ICF (Environment Consulting, Services and Solutions), Los Angeles, California, and Environmental Science Associates (ESA), Los Angeles, California. May 2019.
- *Mitigation Monitoring Program.* City of Los Angeles Department of City Planning, Los Angeles, California. Undated.
- *Phase I Environmental Site Assessment, 514 Shatto Place, Los Angeles, California, AEI Project No. 411477.* AEI Consultants, Freehold, New Jersey. September 19, 2019 (Revised November 14, 2019).
- *Master Conditional Use Permit, Transit Oriented Communities Affordable Housing Incentive Project Approval, Waiver of Dedication and Improvements, Site Plan Review.* City of Los Angeles Department of City Planning, Los Angeles, California. December 18, 2019.

- *Conceptual Design, Shatto & 6th Place, 514-550 Shatto Place, Los Angeles, California.* KTGY Architecture and Planning, Irvine, California. February 27, 2024.

3.0 FINDINGS

A discussion of the information detailed in the reviewed documents is detailed below.

3.1 Subsurface Investigation Report (Hazard Management Consulting, September 20, 2018)

Based on the results of their subsurface investigation, Hazard Management Consulting (HMC) recommended that the following tasks be completed before redevelopment efforts begin:

- A Soil and Groundwater Management Plan should be prepared to provide guidance for the removal of soil potentially impacted with volatile organic compounds (VOCs).
- A Rule 1166 Site-Specific Mitigation Plan application shall be prepared and submitted to the South Coast Air Quality Management District for review and approval. Twenty-four hours prior to beginning excavation activities, the applicant shall notify the SCAQMD and provide the name of the company performing the excavation.

  A calibrated photoionization detector (PID) shall be used to monitor the soil during excavation activities for the presence of VOCs. If elevated PID readings are detected, AEI recommends segregating the potentially impacted soil for profiling and appropriate off-Site disposal.
- Prior to dewatering activities, a National Pollutant Discharge Elimination System permit should be obtained from the Los Angeles Regional Water Quality Control Board to discharge treated water to the municipal sewer/stormwater system. If the subterranean parking garage is designed with a waterproofing envelope to forego a permanent dewatering system and/or to meet permitting requirements, the applicant should consult a waterproofing/building envelope contractor to determine the feasibility of the design for the Site and for permitting requirements.
- As methane gas was detected at concentrations exceeding the lower explosive limit (LEL) and the Site is located within the Methane Zone designated by the City of Los Angeles Department of Building and Safety (LADBS), installation of a methane mitigation system for the new structure is required. The LADBS should be consulted so that regulatory requirements are met based on the methane concentrations detected and the design of the planned building.
- Given the anticipated conversion of the church building into a restaurant which is likely to include the installation of additional subsurface piping for water, sewer, and other utilities, it is recommended that all concrete cuts and utility penetrations into the subsurface through the slab be sealed, adding an additional measure of protection against potential vapor intrusion.

3.2 Phase I Environmental Site Assessment (AEI, November 19, 2019)

AEI identified the Site is located in the Methane Zone according to the LADBS and cited it as a recognized environmental condition. As a result, AEI recommends that a methane assessment be conducted according to the LADBS protocols at the Site prior to commencing redevelopment activities.

3.3 Conceptual Design (ktgy Architecture + Planning, February 27, 2024)

A review of the 2024 Conceptual Design plans indicate that the building has been reduced to eight stories from 24-stories (not including the parking garage), reducing the total number of units. The parking garage has been reduced to two floors from four floors, implying that the depth of excavation for construction purposes has been reduced, as will the volume of soil removal.

The environmental recommendations discussed in Section 4.0 are not impacted by these alterations in the design of the building and parking garage and are still recommended.

4.0 MITIGATION MONITORING PROGRAM

The MMP has been prepared to ensure that the mitigation measures identified in the SCEA are implemented to minimize the potential environmental hazards. To fulfill that purpose, the MMP recommends the following:

- **MMP HAZ-1**: A Site-specific Soil Management Plan (SMP) will be prepared to provide guidance to contractors in the appropriate handling, screening, and management of potentially impacted and/or known impacted soils that may be encountered at the Site during excavation and/or grading activities. Procedures described in the SMP will include training for construction personnel on the identification of suspected impacted soil; procedures for the proper field screening and sample collection of potentially impacted soil; appropriate handling of segregation of potentially impacted and known impacted soil in preparation for proper disposal.
- **MMP HAZ-2**: A Groundwater Management Plan (GWMP) will be prepared to inform contractor personnel about avoiding contact with groundwater during excavation activities and appropriate disposal protocols for potentially impacted groundwater.
- **MMP HAZ-3**: Renovation of the former church building: All cuts into the concrete slab beneath the former church occurring during the remodeling/repurposing of the existing building are to be sealed, adding an additional measure of protection against potential vapor intrusion.

5.0 RECOMMENDATIONS

After reviewing the documents listed and discussed above, AEI concurs that the MMP adequately addresses concerns at the Site, with the following exceptions:

According to HMC's October 2018 *Subsurface Investigation Report*, the Site is located within the Methane Zone identified by the LADBS and that methane was detected in the subsurface at concentrations above the LEL. Therefore, AEI recommends that the Client contact the LADBS to confirm whether a Site-specific methane gas mitigation system will be required based on the detected concentrations and the planned construction design.

As part of MMP HAZ-3, to protect against potential vapor intrusion, AEI recommends conducting a pathway assessment/visual monitoring to evaluate the sealing of penetrations after construction. The use of a vapor-barrier wrap is recommended.

In addition to the implementation of a GWMP during construction activities, AEI recommends the inclusion of additional adequate design measures to mitigate potential groundwater infiltration from the subsurface. Suggested design measures can include waterproofing the entire subgrade area, use of waterproofing compatible with Site-specific constituents of concern, and sealing electronic conduits, piping, etc. to prevent water from accessing preferential pathways.

6.0 REPORT LIMITATIONS AND RELIANCE

AEI's conclusions and recommendations stated in this 2024 MMP Addendum are based on the information obtained from or provided by the Client, listed in Section 2.0. AEI's report limitations and reliance expressed in the June 11, 2020 Mitigation Monitoring Program Addendum extend to this MMP Addendum. AEI makes no warranty expressed or implied, except that the services have been performed in accordance with generally accepted environmental property assessment practices at the time and location when and where this MMP Addendum was completed.

7.0 SIGNATURES

This document was prepared by, or under the direction of, the undersigned. If you have any questions regarding the contents of this MMP Addendum, you may contact Kate Lamb at 773.655.1263, klamb@aeiconsultants.com, or the undersigned.

Sincerely,
AEI Consultants

Kate Lamb
Regional Director

Valerie Marshall
Vice President

AEI Consultants
701 Campus Square W, Suite 723A
El Segundo, California 90245
Email: klamb@aeiconsultants.com

Appendix F
Construction Noise Study

Construction Noise Study

550 Shatto Place Project

Prepared by:
Kimley-Horn and Associates, Inc.
1100 W. Town and Country Road, Suite 700
Orange, California 92868
714.939.1030

October 2024

Kimley-Horn

TABLE OF CONTENTS

Figures

Tables

Appendices

1.0 INTRODUCTION

On November 24, 2021, the City Council certified the Citywide Housing Element 2021-2029 and Safety Element Updates Final Environmental Impact Report (EIR), SCH No. 2021010130, EIR No. ENV-2020-672-EIR (Program EIR), to adopt the 2021-2029 Citywide Housing Element and the Updates to the Safety Element and the Plan for a Healthy LA (Health Element). Pursuant to CEQA Guidelines Section 15168(d), the Proposed Project has been found to be within the scope of the program analyzed in the Program EIR and its environmental effects are within the scope of environmental impacts assessed in the Program EIR. In addition, the Proposed Project is subject to applicable mitigation implemented by the Program EIR. Pursuant to Program EIR Mitigation Measure 4.10-1(f) Project-Specific Construction Noise Study**,** this report documents the results of a Construction Noise Study completed for the 550 Shatto Place Project ("Project" or "Proposed Project"). This Construction Noise Study evaluates the potential construction-related noise and vibration impacts associated with the Project and determines the level of impact the Project would have on the environment.

1.1 Project Location

The Project Site is bounded by Shatto Place on the west, West 6th Street on the south, West 5th Street to the north, and South Westmoreland to the east as shown in Figure 1. Regional Vicinity Location Map and Figure 2. Aerial. The Project Site is served by a network of regional transportation facilities providing connectivity to the larger metropolitan area. The Project Site is 0.95 miles south of U.S. Route 101 (US 101), 1.75 miles west of Interstate 110 (I 110), and 1.89 miles north of Interstate 10 (I 10). The Project Site is close to many major bus transit lines, including Metro and DASH services (Metro Lines 18, 20, 204, 720, and 754 and the Wilshire Center/Koreatown DASH line) and is approximately 500 feet from the Wilshire/Vermont Metro Station.

1.2 Project Description

The Project Site is located at 514-550 Shatto Place (APN 5077-004-033 and 5077-004-025). The Project Site is currently occupied by the New Covenant Academy, a private school serving grades K-12 on the southern portion of the Project Site, and an approximately 27,843 square-foot four-story office building with subterranean parking on the northern portion of the Project Site. The New Covenant Academy includes a one-story (plus mezzanine) 12,800 square-foot church building which was constructed in 1936 for the First English Evangelical Lutheran Church. The "L-shaped" building is designed in the Spanish Colonial Revival architectural style and is currently used by the New Covenant Academy as a basketball court/gym, a kitchen and food hall/theatre stage and classrooms.

The Project would involve the demolition of the four-story office building and would remove some of the existing school structures, including a 4,105-square-foot one-story school classroom building, a 2,412-square-foot, two-story classroom building, and restroom and storage facilities (1,760 square feet), canopies, and surface parking. The Project would include a new eight-story building containing 318 residential units and 234 parking spaces located on the northern portion of the Project Site. Of the 318 dwelling units, 35 units (11 percent) would be restricted as affordable housing for Very Low-Income Households. On the southern portion of the Project Site, the existing former 1936 church building would be repurposed with commercial uses that would include 21,482 square feet of space.

Up to approximately 234 vehicle parking spaces would be located within three levels of parking, one at grade level and two subterranean levels. The subterranean parking would be located directly below the new residential components; no subterranean parking would be located below the retrofitted former church building. Bicycle parking spaces pursuant to the Los Angeles Municipal Code (LAMC) would be provided on-site (184 long term and 18 short term spaces).

Two driveways to serve the Project would be located along Shatto Place. The southern driveway would provide access to the commercial and residential parking on the ground level and the northern driveway would provide access to the residential parking on the subterranean levels. All loading would be internal to the Project Site and accessed via one of the two driveways along Shatto Place. Emergency vehicle access to the Project Site would be located east of the former church building from 6th Street.

The Project would provide 24,431 square feet of credited open space which would include private balconies, a central courtyard, front, side, and rear yards and various amenities including fitness areas, lounge, and club room. See Figure 3. Conceptual Site Plan.

Commercial

New commercial restaurant uses totaling up to approximately 21,482 square feet would be located in the former church building and within an outside dining patio at the corner of Shatto Place and 6th Street. The ground-level commercial uses would be accessible to the public from the sidewalk on Shatto Place.

Residential Uses

Residential uses would include approximately 241,156 square feet of floor area and up to 318 dwelling units consisting of 149 studios, 138 one-bedroom units, and 31 two-bedroom units. Of these units, 36 units of the total would be income restricted (20 dwelling units for Very Low Income and 16 units for Extremely Low Income). Residential units would be located on levels two through eight of the new building. The ground level of the residential building would include amenities such as the lobby/leasing areas, recreation room, work area, trash room, and long-term bicycle storage as well as parking for residential and commercial uses and mechanical equipment.

Pedestrian access to the residential uses would be from a dedicated lobby area on the ground floor of the new building accessible from Shatto Place. Adjacent to the lobby, are the Project’s mailroom and residential offices.

Open Space

The Project has been designed to activate the pedestrian environment with the inclusion of a ground-level restaurant and outdoor patio, inclusion of open space, perimeter landscaping, large windows at the ground level and ground level and subterranean parking that is not visible from the street. The Project is required to provide 24,431 square feet of open space per LAMC Section 12.21.G. The Project would provide 24,431 square feet of required open space and amenities.

Credited open space would include private balconies, a central courtyard, front, side, and rear yards and various amenities including fitness areas, lounge, and club room. On the ground floor, outdoor open space would be located along the perimeter of the Project Site. Indoor open space would be located on the western side of the ground floor which would serve as a co-working space and wifi-lounge. On the second level of the Project, a courtyard would be located in the center of the Project Site. Additional uncredited open space would include front, side, and rear yards, deck areas, restaurant patio and a covered courtyard area.

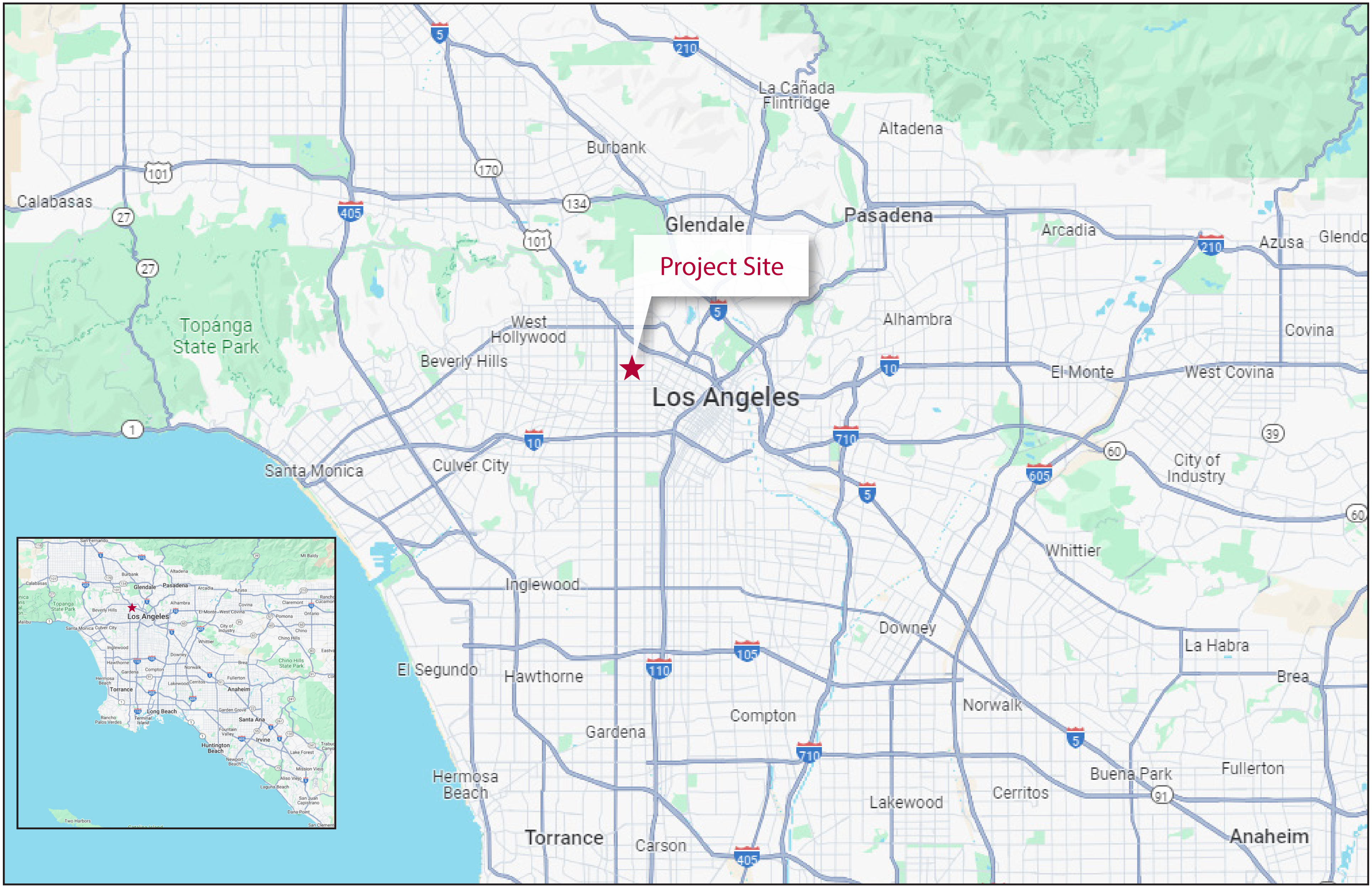
Sustainability Features

Energy saving and sustainable design would be incorporated throughout the Project. The Project would be designed to meet CALGreen and Title 24 Building Standards Code (CALGreen Code). The Project would emphasize energy and water conservation, which would be achieved through the use of energy-efficient heating, ventilation, and air conditioning (HVAC) and lighting systems, and ENERGY STAR® appliances, and low-flow plumbing fixtures.

Of the 234 parking spaces, 30 percent of the Project's parking capacity would be designated electric vehicle (EV) spaces capable of supporting future electric vehicle supply equipment (EVSE) (71 spaces), 25 percent would be EV ready by including pre-wiring for future installation of EV chargers (59 spaces), and 10 percent of spaces would include installed chargers for immediate use by EV (24 spaces) for a total of 154 EV spaces.

Construction

Construction would begin in the second Quarter 2026 and conclude in the first Quarter of 2029. No pile driving would occur. Approximately 43,849 cubic yards of soil would be exported.



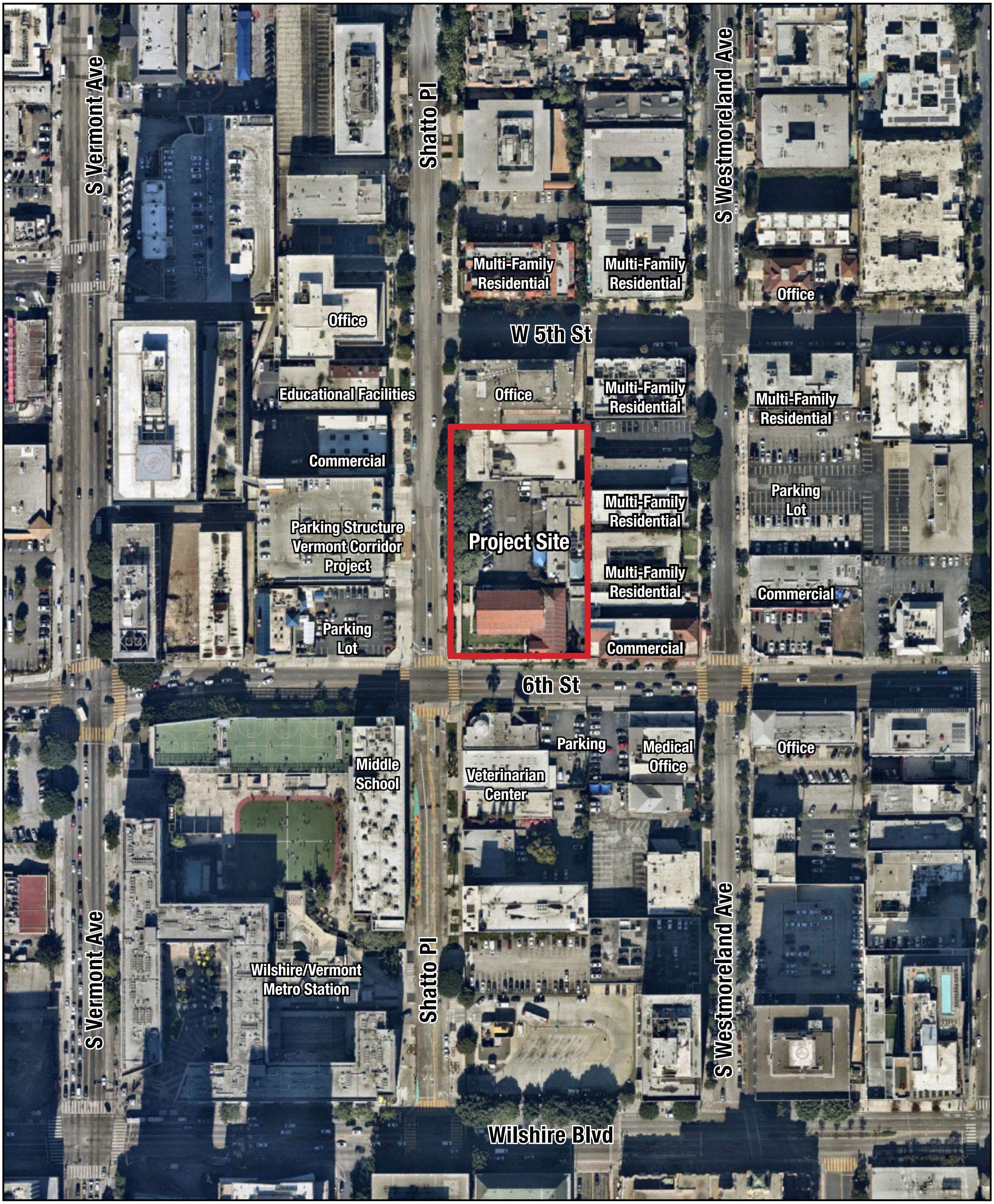
SOURCE: Google Maps, 2024

N.T.S.

FIGURE 1: Regional Vicinity Location Map

550 SHATTO PLACE

Kimley»Horn



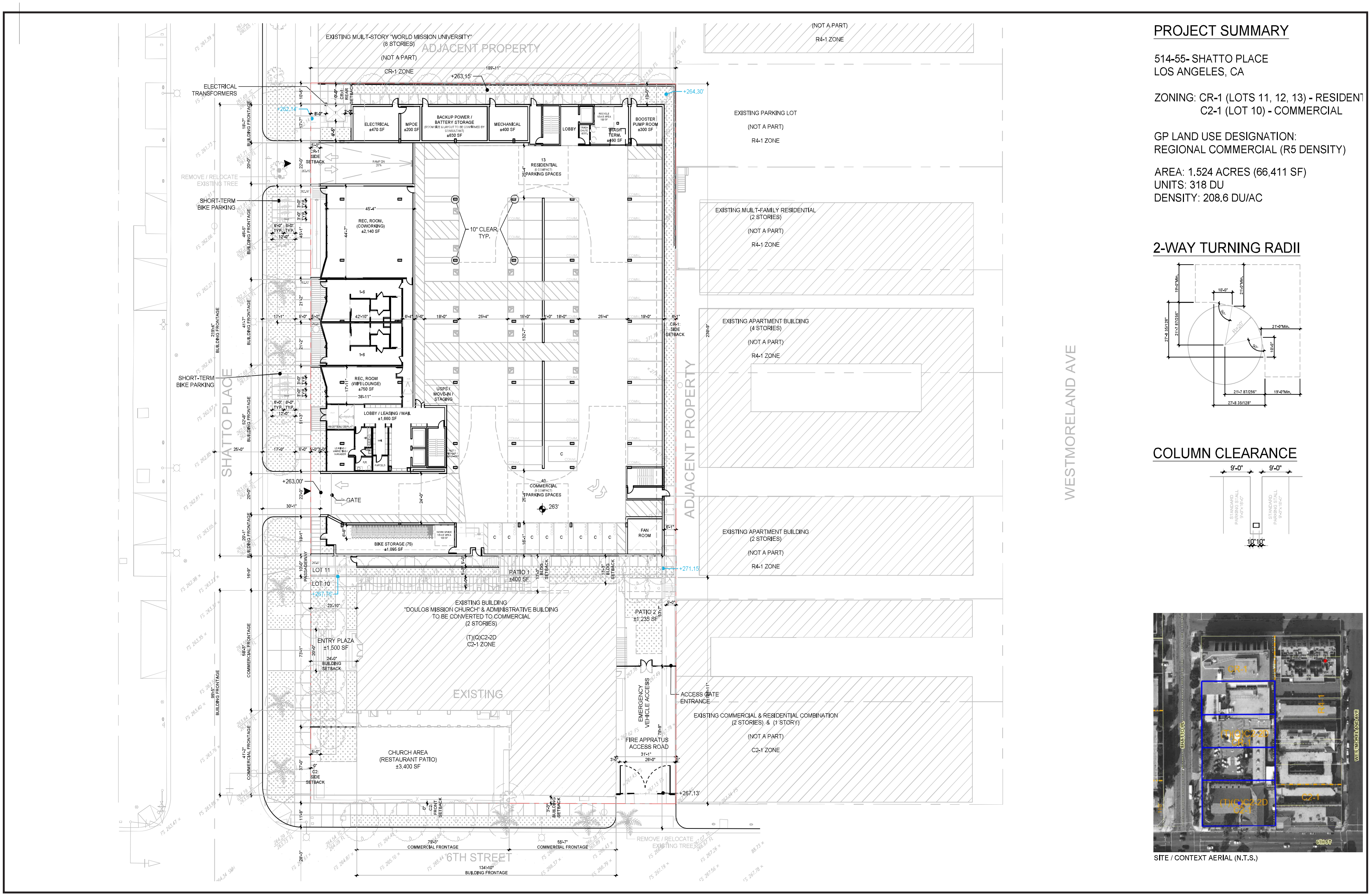
SOURCE: Nearmap, 2024

N.T.S.

FIGURE 2: Project Site and Vicinity Map

514-550 SHATTO PLACE

Kimley»Horn



SOURCE: KTGY Architecture + Planning, 2024

N.T.S.

FIGURE 3 : Conceptual Design Site Plan

550 SHATTO PLACE

Kimley»Horn

2.0 ACOUSTIC FUNDAMENTALS

2.1 Sound and Environmental Noise

Acoustics is the science of sound. Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a medium (e.g., air) to human (or animal) ear. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound and is expressed as cycles per second, or hertz (Hz).[1]

Noise is defined as loud, unexpected, or annoying sound.[2] The fundamental model consists of a noise source, a receptor, and the propagation path between the two.[3] The loudness of the noise source, obstructions, or atmospheric factors affecting the propagation path, determine the perceived sound level and noise characteristics at the receptor. Acoustics deal primarily with the propagation and control of sound.[4] A typical noise environment consists of ambient noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this ambient noise is the sound from individual local sources. These sources can vary from an occasional aircraft or train passing by to continuous noise from traffic on a major highway. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a large range of numbers. To avoid this, the decibel (dB) scale was devised. The dB scale uses the hearing threshold of 20 micro-pascals (μPa) as a point of reference, defined as 0 dB.[5] Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The dB scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels correspond closely to human perception of relative loudness. Table 1. Typical Noise Levels provides typical noise levels.

Table 1. Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	– 110 –	Rock Band
Jet fly-over at 1,000 feet		
	– 100 –	
Gas lawnmower at 3 feet		
	– 90 –	
Diesel truck at 50 feet at 50 miles per hour		Food blender at 3 feet
	– 80 –	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower, 100 feet	**– 70 –**	Vacuum cleaner at 10 feet
Commercial area		Normal Speech at 3 feet
Heavy traffic at 300 feet	**– 60 –**	
		Large business office
Quiet urban daytime	**– 50 –**	Dishwasher in next room

1 California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013. Available at https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf
2 Harris, Cyril M., Noise Control in Buildings: A Practical Guide for Architects and Engineers, 1994
3 California Department of Transportation, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013
4 Ibid.
5 Ibid.

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Quiet urban nighttime Quiet suburban nighttime	**– 40 –**	Theater, large conference room (background)
	– 30 –	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	– 20 –	
		Broadcast/recording studio
	– 10 –	
Lowest threshold of human hearing	**– 0 –**	Lowest threshold of human hearing
Source: California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.		

Noise Descriptions

The dB scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. [6] The equivalent noise level (L_{eq}) represents the equivalent continuous sound pressure level over the measurement period, while the day-night noise level (L_{dn}) and Community Equivalent Noise Level (CNEL) are measures of sound energy during a 24-hour period, with dB weighted sound levels from 7:00 p.m. to 7:00 a.m. Most commonly, environmental sounds are described in terms of L_{eq} that has the same acoustical energy as the summation of all the time-varying events. Each is applicable to this analysis and defined in Table 2. Definitions of Acoustical Terms.

Table 2. Definitions of Acoustical Terms

Term	Definitions
Decibel (dB)	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in μPa (or 20 micronewtons per square meter), where 1 pascal is the pressure resulting from a force of 1 newton exerted over an area of 1 square meter. The sound pressure level is expressed in dB as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g. 20 μPa). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level (dBA)	The sound pressure level in dB as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the

6 Ibid.

Term	Definitions
	frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level (L_{eq})	The average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
Maximum Noise Level (L_{max}) Minimum Noise Level (L_{min})	The maximum and minimum dBA during the measurement period.
Exceeded Noise Levels (L_{01}, L_{10}, L_{50}, L_{90})	The dBA values that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day-Night Noise Level (L_{dn})	A 24-hour average L_{eq} with a 10-dBA weighting added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity at nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.
Community Noise Equivalent Level (CNEL)	A 24-hour average L_{eq} with a 5-dBA weighting during the hours of 7:00 a.m. to 10:00 a.m. and a 10-dBA weighting added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.7 dBA CNEL.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends on its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.
Source: California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.	

The A-weighted decibel (dBA) sound level scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events.

A-Weighted Decibels

The perceived loudness of sounds is dependent on many factors, including sound pressure level and frequency content.[7] However, within the usual range of environmental noise levels, perception of loudness is relatively predictable and can be approximated by dBA values. There is a strong correlation between dBA and the way the human ear perceives sound. For this reason, the dBA has become the standard tool of environmental noise assessment. All noise levels reported in this document are in terms of dBA, but are expressed as dB, unless otherwise noted.

[7] Harris, Cyril M., Noise Control in Buildings: A Practical Guide for Architects and Engineers, 1994

Addition of Decibels

The dB scale is logarithmic, not linear, and therefore sound levels cannot be added or subtracted through ordinary arithmetic. Two sound levels 10 dB apart differ in acoustic energy by a factor of 10.[8] When the standard logarithmic dB is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound and twice as loud as a 60-dBA sound.[9] When two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dBA higher than one source under the same conditions.[10] Under the dB scale, three sources of equal loudness together would produce an increase of approximately 5 dBA.[11]

Sound Propagation and Attenuation

Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics.[12] No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed when soft ground conditions exist between the source and receptor locations.[13] For line sources, an overall attenuation rate of 3 dB per doubling of distance is assumed in this report.

Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm can reduce noise levels by 5 to 15 dBA.[14] The way older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows.

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median

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[8] California Department of Transportation, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013
[9] FHWA, *Noise Fundamentals,* 2017. Available at: https://www.fhwa.dot.gov/environMent/noise/regulations_and_guidance/polguide/polguide02.cfm
[10] Ibid.
[11] California Department of Transportation, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013
[12] Ibid.
[13] Federal Highway Administration, *FHWA Traffic Noise Model User's Guide*, January 1998.
[14] Federal Highway Administration, Highway Traffic and Construction Noise - Problem and Response, April 2006.

noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA.[15] Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA.[16] Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in dBA, the following relationships should be noted:[17]

- Except in carefully controlled laboratory experiments, a 1-dBA change cannot be perceived by humans.
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference.
- A minimum 5-dBA change is required before any noticeable change in community response would be expected. A 5-dBA increase is typically considered substantial.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

Effects of Noise on People

Hearing Loss. While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise. The Occupational Safety and Health Administration has a noise exposure standard that is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA averaged over 8 hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.[18]

Annoyance. Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The L_{dn} as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. A noise level of about 55 dBA L_{dn} is the threshold at which a substantial percentage of people begin to report annoyance.[19]

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[15] Compiled from James P. Cowan, *Handbook of Environmental Acoustics,* 1994, and Cyril M. Harris, *Handbook of Noise Control*, 1979
[16] Ibid.
[17] Compiled from California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013, and FHWA, *Noise Fundamentals,* 2017.
[18] U.S. Department of Labor, Occupational Safety and Health Standards, *29 CFR 1910* (Occupational Noise Exposure).
[19] Federal Interagency Committee on Noise, Federal Agency Review of Selected Airport Noise Analysis Issues, August 1992.

3.0 REGULATORY SETTING

To limit population exposure to physically or psychologically damaging, as well as intrusive, noise levels, the Federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise.

3.1 Federal

Federal Transit Administration Noise and Vibration Guidance

The Federal Transit Administration (FTA) has published the Transit Noise and Vibration Impact Assessment Manual (FTA Transit Noise and Vibration Manual) to provide guidance on procedures for assessing impacts at different stages of transit project development.[20] The report covers both construction and operational noise impacts and describes a range of measures for controlling excessive noise and vibration. In general, the primary concern regarding vibration relates to potential physical damage from construction. The guidance document establishes criteria for evaluating the potential for damage to various structural categories from vibration.

3.2 State of California

California Government Code

California Government Code Section 65302(f) mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services.[21] The guidelines rank noise land use compatibility in terms of "normally acceptable", "conditionally acceptable", "normally unacceptable", and "clearly unacceptable" noise levels for various land use types. Under these guidelines, single-family homes are located in "normally acceptable" exterior noise environments up to 60 CNEL and in "conditionally acceptable" exterior noise environments up to 70 CNEL. Multiple-family residential uses are located in "normally acceptable" exterior noise environments up to 65 CNEL and in "conditionally acceptable" exterior noise environments up to 70 CNEL. Schools, libraries, and churches are located in "normally acceptable" exterior noise environments up to 70 CNEL, as are office buildings and business, commercial, and professional uses.

Assembly Bill 1307

On September 7, 2023, Governor Newsom signed AB 1307, which added section 21085 to the Public Resources Code to read, in pertinent part, "for residential projects, the effects of noise generated by project occupants and their guests on human beings is not a significant effect on the environment."[22]

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[20] Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, September 2018. Available at: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

[21] State of California Governor's Office of Planning and Research, General Plan Guidelines, Appendix D: Noise Element Guidelines, page 374, 2017, https://opr.ca.gov/docs/OPR_COMPLETE_7.31.17.pdf.

[22] AB 1307, Public Resources Code Section 21085

3.3 Local

City of Los Angeles Municipal Code

The City has adopted regulations to control unnecessary, excessive, and annoying noise, as set forth in the City's Noise Ordinance (Chapter XI, Noise Regulation, of the Los Angeles Municipal Code [LAMC]). The City's Noise Ordinance establishes acceptable ambient sound levels to regulate intrusive noises (e.g., stationary mechanical equipment and vehicles other than those traveling on public streets) within specific land use zones and provides procedures and criteria for the measurement of the sound level of noise sources. These procedures recognize and account for differences in the perceived level of different types of noise and/or noise sources.

With regard to vibration, LAMC Section 91.3307.1 states, "Adjoining public and private property shall be protected from damage during construction, remodeling, and demolition work. Protection must be provided for footings, foundations, party walls, chimneys, skylights, and roofs. Provisions shall be made to control water runoff and erosion during construction or demolition activities."

With regard to construction noise, LAMC Section 112.05 sets forth a maximum noise level for construction equipment of 75 dBA at a distance of 50 feet when operated within 500 feet of a residential zone. Compliance with this standard shall not apply where compliance therewith is technically infeasible. In addition, LAMC Section 41.40 prohibits construction between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. and after 6:00 p.m. on Saturday or any national holiday, and at any time on Sunday (i.e., construction is allowed Monday through Friday between 7:00 a.m. and 9:00 p.m. and Saturdays and national holidays between 8:00 a.m. and 6:00 p.m.). Construction may be permitted outside of these hours if a temporary noise variance is approved by the Los Angeles Board of Police Commissioners.

Section 111.02 (Sound Level Measurement Procedure and Criteria) of the LAMC provides procedures and criteria for the measurement of the sound level of "offending" noise sources. According to the LAMC, a noise level increase of 5 dBA over the existing average ambient noise level at an adjacent property line is considered a noise violation. Section 112.01 (Radios, Television Sets, and Similar Devices) of the LAMC prohibits the production of noise from any radio, musical instrument, phonograph, television receiver, or other machine or device for the producing, reproducing or amplification of the human voice, music, or any other sound, in such a manner, as to disturb the peace, quiet, and comfort of neighbor occupants or any reasonable person residing or working in the area, or that exceeds the ambient noise level on the premises of any other occupied property, or if a condominium, apartment house, duplex, or attached business, within any adjoining unit, by more than 5 dBA.

City of Los Angeles General Plan

The Noise Element of the Los Angeles City General Plan (Noise Element) provides guidance for the control of noise to protect residents, workers, and visitors from potentially adverse noise impacts. Its primary goal is to regulate long-term noise impacts to preserve acceptable noise environments for all types of land uses. The Noise Element defers regulation of temporary, point-source noises such as construction activities to the City's Municipal Code Noise Ordinance.

L.A. CEQA Thresholds Guide

In 2006, the City set forth the L.A. CEQA Thresholds Guide, which was intended to provide guidance, as a voluntary tool, for CEQA impact analyses. Today, these thresholds are only used as guidance in instances where City staff finds they are beneficial to use and supported with substantial evidence.[23] In addition, the L.A. CEQA Thresholds Guide recognizes that its applicability and use may be re-evaluated after a period of use.

Updates to Thresholds and Methodology for Construction Noise and Vibration

The City of Los Angeles has released proposed updates to Thresholds and Methodology for Construction Noise and Vibration (Noise and Vibration Thresholds Update) and the City received public comments until February 19, 2024.[24]

The construction thresholds proposed by the Noise and Vibration Thresholds Update are intended to be suited to the generally urban nature of the City, while still recognizing the importance of human health, including sleep disruption. The proposed thresholds are intended to account for reasonable expectations regarding construction noise and vibration during daytime and nighttime hours, and also include absolute maximum noise levels that are intended to protect human health. As part of the Noise and Vibration Thresholds Update, the City would require environmental protection measures (EPMs) to be implemented as part of proposed development projects.

Proposed Daytime Construction Noise Thresholds

Increase Over Ambient. For construction activities that occur between 7:00 a.m. and 7:00 p.m. Monday through Friday, and between 8:00 a.m. and 6:00 p.m. on Saturdays, no numerical threshold above ambient noise levels is proposed.

Absolute Thresholds. On- and off-site construction noise during daytime hours (7:00 a.m. and 7:00 p.m. Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturdays) would be limited to a maximum 80 dBA L_{eq} (8-hour) absolute threshold at sensitive uses (at the property line with outdoor uses or at the exterior of the building), including outdoor public recreational areas.

This threshold applies to residential uses (at the property line with outdoor uses or at the exterior of the building); including expansive upper-level deck/open spaces areas that provide for the recreational use of residents. Examples include large patios or decks that are the primary outdoor use area in an apartment complex. However, this standard does not apply to private residential balconies which may or may not extend past the exterior of a building.

Proposed Nighttime Construction Noise Thresholds

Nighttime construction activities shall not be permitted unless a variance is approved by the City of Los Angeles Police Commission. In the event that such variance is granted, the following thresholds shall apply. The Project is not applying for nighttime construction. Therefore, proposed nighttime thresholds would not apply.

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[23] City of Los Angeles, Construction Noise and Vibration Proposed Updates to Thresholds and Methodology, Draft December 2023.
[24] City of Los Angeles, Proposed Updates to Thresholds and Methodology for Construction Noise and Vibration, 2023.

4.0 EXISTING CONDITIONS

4.1 Existing Noise Sources

The Project Site is currently impacted by various noise sources. Mobile sources of noise, including traffic along 6th Street and Shatto Place are the most common and prominent existing sources of noise in the Project Site area. Other noticeable existing sources of noise on and near the Project Site include parking lot noise and mechanical equipment noise (e.g., heating, ventilation, and air conditioning [HVAC] units) operating at and adjacent to the Project Site and noise from existing nearby commercial and residential uses, and other urban-related activities (e.g., idling cars/trucks, pedestrians, car radios and music playing, dogs barking, etc.).

4.2 Sensitive Receptors

Noise exposure standards and guidelines for various types of land uses reflect the varying noise sensitivities associated with each of these uses. The City of Los Angeles General Plan Noise Element defines sensitive noise receptors as residences, long-term care facilities, dormitories, motels, hotels, transient lodging, houses of worship, hospitals, libraries, schools, auditoriums, concert halls, outdoor theaters, nature and wildlife preserves, and parks.[25] Sensitive receptors near the Project Site are shown in Table 4. Sensitive Receptors.

Table 3. Sensitive Receptors

Receptor Description	Distance[1] and Direction from the Project
1. Nobel University (north)	100
2. Young Oak Kim Academy (southwest)	125
3. Multifamily Residential (east)	Adjacent
4. Multifamily Residential (northeast)	Adjacent
5. World Mission University (north)	Adjacent

Source: Google Earth, 2024.
1. Distance measured from the property line of the Project Site to the nearest receptor property line.

25 City of Los Angeles, General Plan Noise Element, 1999

5.0 SIGNIFICANCE CRITERIA AND METHODOLOGY

5.1 Construction Noise Thresholds

On November 24, 2021, the City Council certified the Citywide Housing Element 2021-2029 and Safety Element Updates Final Environmental Impact Report (EIR), SCH No. 2021010130, EIR No. ENV-2020-672-EIR (Program EIR), to adopt the 2021-2029 Citywide Housing Element and the Updates to the Safety Element and the Plan for a Healthy LA (Health Element). Pursuant to CEQA Guidelines Section 15168(d), the Proposed Project has been found to be within the scope of the program analyzed in the Program EIR and its environmental effects are within the scope of environmental impacts assessed in the Program EIR. In addition, the Proposed Project is subject to applicable mitigation implemented by the Program EIR.

Pursuant to Program EIR Mitigation Measure 4.10-1(f) (Project-Specific Construction Noise Study), a Construction Noise Study quantifying construction noise levels at noise-sensitive uses and identifying noise reduction techniques is required for discretionary projects located within 500 feet of noise-sensitive land uses and that meet one or more of the following characteristics:

- Two or more subterranean levels or 20,000 cubic yards or more of excavated material;
- Construction duration (excluding architectural coatings) of 18 months or more;
- Use of large, heavy-duty equipment rate 300 horsepower or greater; or
- The potential for impact pile driving.

The proposed Project would require the export of approximately 43,849 cubic yards of excavated material, construction duration of greater than 18 months, and the use of construction equipment greater than 300 horsepower.

City of Los Angeles

The City of Los Angeles released proposed updates to the City's current construction noise thresholds and methodologies, entitled Proposed Updates to Thresholds and Methodology for Construction Noise and Vibration (Noise and Vibration Thresholds Update) and received public comments on those updates until February 19, 2024.[26] Pursuant to the proposed Noise and Vibration Thresholds Update, on- and off-site construction noise occurring between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday and between the hours of 8:00 a.m. and 6:00 p.m. on Saturdays up to a maximum 80 dBA L_{eq} absolute threshold at sensitive uses would be less than significant; no numerical threshold above ambient noise levels has been proposed.

5.2 Methodology

Construction noise levels were based on typical noise levels generated by construction equipment published by the FTA and FHWA. Construction noise is assessed in dBA L_{eq}. This unit is appropriate because L_{eq} can be used to describe the noise level from the operation of each piece of equipment separately, and the levels can be combined to represent the noise level from all equipment operating

[26] City of Los Angeles, Proposed Updates to Thresholds and Methodology for Construction Noise and Vibration, 2023.

concurrently during a given period.

Reference noise levels are used to estimate operational noise levels at nearby sensitive receptors based on a standard noise attenuation rate of 6 dB per doubling of distance (line-of-sight method of sound attenuation for point sources of noise). Noise level estimates do not account for the presence of intervening structures or topography, which may reduce noise levels at receptor locations. Therefore, the noise levels presented herein represent a conservative, reasonable worst-case estimate of actual temporary construction noise.

6.0 POTENTIAL IMPACTS AND MITIGATION

6.1 On-Site Construction Noise

Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., land clearing, grading, excavation). Noise generated by construction equipment, including earth movers and material handlers, can reach high levels that can affect noise-sensitive uses near the construction site. Construction activities for the Project would include demolition, excavation, foundation construction, building construction and building renovations.

Construction noise was calculated accounting for each piece of equipment's usage factor, or the fraction of time that the equipment would be in use at full power over a specific period of time, based on Table 1 of the FHWA's Roadway Construction Noise Model (RCNM).[27] Other primary sources of acoustical disturbance may include random incidents, which would last less than one minute (such as dropping of materials or the hydraulic movement of machinery lifts). Default RCNM noise level assumptions are based on equipment operating at full power 50 feet from the sensitive receptor, without taking into account any intervening structures or topography that may reduce noise levels. Following the City's proposed update to Thresholds and Methodology for Construction Noise and Vibration (released December 2023), construction noise was predicted at the nearest noise-sensitive receptors utilizing the FHWA's RCNM.[28] Following the City's Noise and Vibration Thresholds Update, when calculating construction noise, the loudest piece of equipment was assumed to operate at the property line nearest to the studied receptor while all other equipment anticipated for each individual construction phase was assumed to operate at the center of the Project Site.[29] This methodology accounts for equipment operating throughout the Project Site and not at a fixed location for extended periods of time.[30] Therefore, the distances used in the RCNM model were measured from the property line of the Project Site to the nearest receptor property line (or 20 feet for adjacent receptors) for the loudest piece of equipment and from the center of the Project Site to the receptor property line for all other pieces of equipment.

Table 5. Project Construction Noise Levels shows the estimated maximum exterior construction noise levels at the nearest receptors to the Project Site.[31] The Project shall comply with a combination of the following City of Los Angeles EPMs (which are generally consistent with Program EIR Mitigation Measures 4.10-1[a] through 4.10-1[e]), which will be included in Project construction plans, to minimize construction noise to the extent feasible. EPM NV-1 requires the proper maintenance of construction equipment and the installation of noise shielding/muffling devices. The FHWA states that muffler systems can reduce noise levels by 10 dBA or more.[32] Other noise shielding methods may include the use of sound aprons/shields attached to construction equipment to dampen/shield noise emanating from equipment engines, providing noise level reductions of between 10 and 20 dBA.[33] EPM NV-2 prohibits the use of driven (impact) pile systems except where

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[27] Federal Highway Administration, Roadway Construction Noise Model User's Guide, 2006. Available at: https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf

[28] City of Los Angeles, Proposed Updates to Thresholds and Methodology for Construction Noise and Vibration, December 2023

[29] Ibid.

[30] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

[31] For predicted construction noise levels for all construction phases, see Appendix A.

[32] Federal Highway Administration, *Special Report - Measurement, Prediction, and Mitigation*, Chapter 4 Mitigation, 2017.

[33] FHWA. Special Report – Measurement, Prediction, and Mitigation. Chapter 4 Mitigation. https://www.fhwa.dot.gov/Environment/noise/construction_noise/special_report/hcn04.cfm.

the underlying geology renders other methods infeasible. The analysis herein assumes the use of drilled piles and that impact piles will not be needed. EPM NV-3 requires the enclosure or screening of outdoor mechanical equipment. EPM NV-4 requires location construction staging areas as far away from sensitive uses as reasonably possible. EPM NV-5 requires the use of temporary noise barriers such as plywood walls with a minimum ½-inch thickness or sound blankets meeting a sound transmission class (STC) rating of 25. Sound blankets meeting a STC 25 rating can achieve a minimum 7 to 10 dBA reduction for construction equipment with 200 Hz or lower frequency.[34] With implementation of EPM NV-1, EPM NV-3, and EPM NV-5, an up to 20 dBA reduction in noise is achievable and it is reasonable and feasible to assume that construction noise levels would not exceed the applicable daytime construction noise threshold of 80 dBA L_{eq}. See Appendix A for predicted construction noise for each individual construction phase.

Table 4. Project Construction Noise Levels

Receptor	Maximum Noise Level at Receptor Prior to EPMs (L_{eq})[1, 2]	Maximum Noise Level at Receptor with EPMs (L_{eq})[1, 2]	Noise Threshold (dBA L_{eq})[3]	Exceeded?
R1 – Nobel University (north)	79.7	59.7	80	No
R2 – Young Oak Kim Academy (south)	74.2	54.2		No
R3 – Multi Family Residential (east)	93.2	73.2		No
R4 – Multi Family Residential (northeast)	91.1	71.1		No
R5 – World Mission University (north)	93.1	73.1		No

1. Per the methodology described in the City's Construction Noise and Vibration Thresholds Update, it is assumed that the loudest piece of equipment would be operated near the Project property boundary and all other equipment would operate at the center of the Project Site.
2. Assumes noise level reductions (up to 20 dBA) provided by EPM NV-1 (Noise Shielding and Muffling), EPM NV-3 (Enclosure or Screening of Outdoor Mechanical Equipment), and EPM NV-3 (Temporary Walls).
3. Per the City's Construction Noise and Vibration Thresholds Update, daytime construction noise shall be limited to a maximum of 80 dBA L_{eq} at sensitive uses.

Source: Federal Highway Administration, *Roadway Construction Noise Model,* 2006. Refer to Appendix A for noise modeling results for each construction phase.

As shown in Table 5, Project construction noise would not exceed the City's Noise and Vibration Thresholds Update significance criterion of 80 dBA L_{eq}. In addition, construction-related noise would be temporary and would not result in a permanent increase in ambient noise levels in the area. Construction activities would also be prohibited between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday and 6:00 p.m. to 8:00 a.m. on Saturdays, and at any time on Sunday.[35] The City's permitted hours of construction are required in recognition that construction activities undertaken during daytime hours are a typical part of living in an urban environment and do not cause a significant impact. For all of these reasons, the Project would not result in the generation of a substantial temporary 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 during construction. Construction noise impacts would be less than significant, and no

[34] Environmental Noise Control. *Portable Acoustic Panels*, 2024. Available at: https://environmental-noise-control.com/products/portable-acoustic-panels/

[35] Note that the City's Noise and Vibration Thresholds Update designates daytime hours as between the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday. Project construction is not anticipated to occur after 7:00 p.m. Monday through Friday.

mitigation measures in addition to those implemented by the Program EIR are required.

6.2 Off-Site Construction Noise

In addition to on-site construction noise, the Project would generate mobile-source noise from delivery/haul trucks and construction workers traveling to and from the Project Site during the Project's construction. Haul trucks would travel to and from the Project Site from State Route 101 via Vermont Avenue, 6th Street, and Shatto Place. Haul and delivery trucks and construction workers are expected to arrive at the Project Site before construction starts and leave when construction ends, and thus, would not overlap with the noise generated by the Project's construction equipment. Although construction workers would arrive from various directions, worker trips would likely all utilize Shatto Place and 6th Street to arrive at the Project Site. It is reasonable to assume that workers would already have arrived at the Project Site to being grading activities prior to the arrival of haul trucks. The greatest contributor to on-road traffic noise during construction would be haul trucks arriving from State Route 101 to the Project Site via Vermont Avenue, 6th Street, and Shatto Place. Therefore, this analysis only considers noise generated by haul trucks. According to modeling assumptions included in the air quality assessment prepared by Kimley-Horn in June 2024, the construction phase with the highest assumed number of haul trucks would be grading, when it is assumed there would be up to 104 daily haul truck trips (52 inbound/outbound) accessing the Project Site. Assuming that all 52 inbound/outbound haul trucks would pass through the same roadway segment along Vermont Avenue, 6th Street, and Shatto Place within a 15-minute period, the estimated noise level from the grading phase haul truck trips would be 61.3 dBA L_{eq} at 50 feet from the roadway centerline. This worst-case noise level would not exceed the City's Noise and Vibration Thresholds Update significance criterion of 80 dBA L_{eq} for on- and off-site construction activities. Therefore, approval of the Project would not result in any significant effects relating to off-site construction traffic noise.

6.3 Reduction Measures and Mitigation Measures

Program EIR Mitigation Measures

The following Program EIR mitigation measures apply to all discretionary projects.

4.10-1(a) Noise Shielding and Silencing

Power construction equipment (including combustion engines), fixed or mobile, shall be equipped with noise shielding and silencing devices consistent with manufacturer's standards or the Best Available Control Technology. Equipment shall be properly maintained, and the Project Applicant or Owner shall require any construction contractor to keep documentation on-site during any earthwork or construction activities demonstrating that the equipment has been maintained in accordance with manufacturer's specifications.

4.10-1(b) Use of Driven Pile Systems

Driven (impact), sonic, or vibratory pile drivers shall not be used, except in locations where the underlying geology renders alternative methods infeasible, as determined by a soils or geotechnical engineer and documented in a soils report.

4.10-1(c) Enclosures and Screening

All outdoor mechanical equipment shall be enclosed or screened from off-site noise-sensitive uses. The equipment enclosure or screen shall be impermeable (i.e., solid material with minimum weight of 2 pounds per square feet) and break the line-of-sight from the equipment and off-site noise-sensitive uses.

4.10-1(d) Construction Staging Areas

Construction staging areas shall be located as far from noise-sensitive uses as reasonably possible and feasible in consideration of site boundaries, topography, intervening roads and uses, and operational constraints.

4.10-1(e) Temporary Sound Barriers

Sound barriers, such as temporary walls or sound blankets, shall be erected between construction activities and noise-sensitive uses when construction activities are located within a line-of-sight to and within 500 feet of noise-sensitive uses.

Project-Specific Measures

The City prepared a SCEA pursuant to CEQA for the 550 Shatto Place/Soul Project (Approved Project) to assess potential environmental impacts. The Approved Project included the construction of a 31-story, mixed-use tower with 256 residential units and 329 underground parking stalls. The northern portion of the project site included 2,507 square feet of office space with four townhouse units above the office uses. In addition, the existing 1936 church building would be preserved and repurposed into 12,800 square feet of restaurant uses, with limited architectural alterations that will not affect the structure's historic characteristics or potential for eligibility in any federal, state, or local register of historic resources.

On August 14, 2019, the City Council approved the SCEA for the Approved Project. The SCEA concluded that all of the Approved Project's environmental impacts would be less than significant, with the implementation of Project Design Features (PDF) and Mitigation Measures (MMs). The following MMs and PDFs are applicable to noise for the Project.

Project Design Features

PDF NOISE-1: The Project shall limit construction and demolition to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturdays or holidays (City observed).

PDF NOISE-2: The Project will not require or allow the use of impact pile drivers.

PDF NOISE-3: The Project will not allow any delivery truck idling for more than 5 consecutive minutes in the loading area pursuant to State regulation (Title 13 California Code of Regulations, Section 2485). Signs will be posted in delivery loading areas specifying this idling restriction.

PDF NOISE-4: The Project will not require or allow operation of any amplified sound system in the outdoor areas except for downward or inward facing speakers playing background music that will be confined to the outside ground-level dining patio areas in the central plaza and along West 6th Street and the amenity decks on levels 3 and 40.

Mitigation Measures

MM NOISE-1: The Project shall implement construction noise reduction strategies to reduce noise levels from construction affecting the noise-sensitive residential receptors located to the east of the Project Site, with a performance standard of achieving a construction noise level of less than 66 dBA L_{eq} at the noise-sensitive residential receptors adjacent to the east of the Project Site and the university and church use directly to the north of the Project Site. The noise reduction strategies shall include one or a combination of the following to achieve the performance standard.

- Use construction equipment, fixed or mobile, that individually generates less noise than presumed in the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM). Examples of such equipment are medium, compact, small, or mini model versions of backhoes, cranes, excavators, loaders, or tractors; or newer model equipment; or other applicable equipment that are equipped with reduced noise-generating engines. Construction equipment noise levels shall be documented based on manufacturer's specifications. The construction contractor shall keep construction equipment noise level documentation on-site for the duration of Project construction.
- Noise-generating equipment operated at the Project Site shall be equipped with California industry standard noise control devices to effectively reduce noise levels, i.e., mufflers, lagging, and/or motor enclosures. All equipment shall be properly maintained to assure that no additional noise, due to worn or improperly maintained parts, would be generated. The reduction in noise level from noise shielding and muffling devices shall be documented based on manufacturer's specifications. The construction contractor shall keep noise shielding and muffling device documentation on-site and documentation demonstrating that the equipment has been maintained in accordance with the manufacturers' specifications on-site for the duration of Project construction.
- Construction and demolition activities shall be scheduled so as to minimize or avoid operating multiple heavy pieces of equipment such as a large dozer, concrete saw, and excavator, simultaneously at the perimeter of the Project Site along the eastern boundary of the Project Site.

- The Project shall provide temporary minimum 8-foot-tall construction noise barriers along property lines facing adjacent off-site residential buildings to the east and northeast_and off-site university and church use adjacent to the north. The temporary barriers shall at a minimum remain in place during early Project construction phases (up to the start of framing) when the use of heavy equipment is prevalent. Standard construction protective fencing with green screen or pedestrian barricades for protective walkways shall be installed along property lines facing streets or commercial buildings. All temporary barriers, fences, and walls shall have gate access as needed for construction activities, deliveries, and site access by construction personnel. The Applicant shall ensure through appropriate postings and frequent visual inspections that no unauthorized materials are posted on any temporary construction barriers or temporary pedestrian walkways that are accessible/visible to the public, and that such temporary barriers and walkways are maintained in a visually attractive manner (i.e., free of trash, graffiti, peeling postings and of uniform paint color or graphic treatment) throughout the construction period The construction management company's name and telephone number(s) shall be posted at a least one location along each street frontage that borders the Project Site.
- The Project shall stage noise-generating construction equipment as far away from the noise-sensitive receptors adjacent to the east of the Project Site as practicable; minimize the number of noise-generating construction equipment in simultaneous use; and/or provide other noise-reducing techniques.

The effectiveness of the noise reduction strategies to achieve the performance standard shall be documented by on-site noise monitoring conducted by a qualified acoustical analyst using a Type 1 instrument in accordance with the American National Standards Institute (ANSI) S1.4. Noise monitoring shall be conducted during early Project construction phases when the use of heavy equipment is prevalent.

MM NOISE-2: The Applicant shall designate a construction relations officer to serve as a liaison with surrounding residents and property owners who is responsible for responding to any concerns regarding construction. The liaison's telephone number(s) shall be prominently displayed at the Project Site. Signs shall also be posted at the Project Site that include permitted construction days and hours. In addition, no less than 30 days prior to the start of construction, the Applicant shall also meet with the principal, or other designated representatives, of Young Oak Kim Academy, including the LAUSD's Transportation Branch to discuss Project construction dates, the Construction Management Plan, and provide information regarding the construction relations officer who would serve as the liaison to the community.

MM NOISE-3: Due to potential noise impacts on the schools, no construction vehicles or haul trucks shall be staged or idled on W. 6th Street between Vermont Avenue and Shatto Place and on Shatto Place between W. 6th Street and Wilshire Boulevard during school hours.

MM NOISE-1 is consistent with the requirements of Program EIR MMs 4.10-1(a) through 4.10-1(e) and provides more specific performance standards. MM NOISE-2 and MM NOISE-3 are specific to the project location and are proposed in addition to Program EIR measures. MM NOISE-1 through MM NOISE-3 are applicable to the Project and shall be implemented. Project-specific MMs are equal to or are more effective than Program EIR MMs 4.10-1(a) through 4.10-1(e) at reducing impacts to less than significant and no new significant impact would result.

City of Los Angeles Environmental Protection Measures

The City's proposed update to Thresholds and Methodology for Construction Noise and Vibration (released December 2023) includes Environmental Protection Measures (EPMs) that are intended to be requirements for all discretionary projects. Therefore, the following EPMs would be implemented by the Project to ensure that all current City requirements are accounted for.

EPM NV-1 **Noise Shielding and Muffling.** Power construction equipment (including combustion engines), fixed or mobile, shall be equipped with noise shielding and muffling devices consistent with manufacturers' standards or the Best Available Control Technology. All equipment shall be properly maintained, and the Applicant or Owner shall require any construction contractor to keep documentation on-site during any earthwork or construction activities demonstrating that the equipment has been maintained in accordance with manufacturer's specifications.

EPM NV-2 **Use of Driven Pile Systems.** Driven (impact) pile systems shall not be used, except in locations where the underlying geology renders drilled piles, sonic, or vibratory pile drivers infeasible, as determined by a soils or geotechnical engineer and documented in a soils report.

EPM NV-3 **Enclosure or Screening of Outdoor Mechanical Equipment.** All outdoor mechanical equipment (e.g., generators, compressors) shall be enclosed or visually screened. The equipment enclosure or screen shall be impermeable (i.e., solid material with minimum weight of 2 pounds per square feet) and break the line of sight between the equipment and any off-site Noise Sensitive Uses.

EPM NV-4 **Location of Construction Staging Areas.** Construction staging areas shall be located as far from Noise-Sensitive Uses as reasonably possible and technically feasible in consideration of site boundaries, topography, intervening roads and uses, and operational constraints. The burden of proving what constitutes "as far as possible" shall be upon the Applicant or Owner, in consideration of the above factors.

EPM NV-5 Temporary Walls. Noise barriers, such as temporary walls (minimum ½-inch thick plywood) or sound blankets (minimum STC 25 rating), that are a minimum of eight feet tall, shall be erected between construction activities and Noise-Sensitive Uses as reasonably possible and technically feasible in consideration of site boundaries, topography, intervening roads and uses, and operational constraints. The burden of proving that compliance is technically infeasible shall be upon the Applicant or Owner. Technical infeasibility shall mean that noise barriers cannot be located between construction activities and Noise-Sensitive Uses due to site boundaries, topography, intervening roads and uses, and/or operational constraints.

The Project does not include the use of pile driving systems and therefore EPM NV-2 would not be applicable. EPM NV-1, EPM NV-3, EPM NV-4, and EPM NV-5 are consistent with the requirements of Program EIR MM 4.10-1(a), 4.10-1(c), 4.10-1(d), and 4.10-1(e), respectively. Therefore, EPMs NV-1 through NV-5 are equal to Program EIR MMs 4.10-1(a) through 4.10-1(e) at reducing impacts to less than significant and no new significant impact would result.

7.0 REFERENCES

1. AB 1307, Public Resources Code Section 21085
2. California Department of Transportation, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013. Available at https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf
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16. James P. Cowan, Handbook of Environmental Acoustics, 1994
17. State of California Governor's Office of Planning and Research, General Plan Guidelines, Appendix D: Noise Element Guidelines, page 374, 2017, https://opr.ca.gov/docs/OPR_COMPLETE_7.31.17.pdf.
18. U.S. Department of Labor, Occupational Safety and Health Standards, 29 CFR 1910 (Occupational Noise Exposure)

Appendix A

NOISE DATA

Project: Shatto Place

Construction Noise Impact on Sensitive Receptors

Parameters

Construction Hours:	Daytime hours (7 am to 7 pm)	8
	Evening hours (7 pm to 10 pm)	0
	Nighttime hours (10 pm to 7 am)	0
Leq to L10 factor		3

	Receptor (Land Use)	Average Distance (feet)	Distance to Property Line (feet)	Shielding	Direction
1	Nobel University		100	0	N
2	Young Oak Kim Academy	340 & 240	220 & 125	0	SW
3	MF Residential	100	25	0	E
4	MF Residential	175 & 275	25 & 250	0	NE
5	World Mission University	150 & 285	25 & 240	0	N

Construction Noise Levels by Phase

Receptor	Demolition /Site Preparation	Grading /Excavation	Utilities /Trenching	Paving	Building Construction	Renovation of Existing Use	Architectural Coating	Renovation	Maximum Construction
1	77.4	77.0	76.3	76.2	76.3	69.6	67.7	10.8	79.7
2	72.0	71.9	70.3	70.1	70.2	76.5	61.1	10.8	74.2
3	90.9	90.4	90.1	90.1	90.1	90.3	81.7	10.8	93.2
4	72.9	88.2	88.1	88.0	88.1	71.1	79.7	10.8	91.1
5	90.7	90.1	90.0	90.0	90.0	72.0	81.7	10.8	93.1

					RECEPTOR 1			RECEPTOR 2			RECEPTOR 3			RECEPTOR 4			RECEPTOR 5		
Construction Phase	Equipment Type	No. of Equip.	Acoustical Usage Factor	Reference Noise Level at 50ft per Unit, Lmax	Distance (feet)	Noise Level at Receptor 1, Lmax	Noise Level at Receptor 1, Leq	Distance (feet)	Noise Level at Receptor 2, Lmax	Noise Level at Receptor 2, Leq	Distance (feet)	Noise Level at Receptor 3, Lmax	Noise Level at Receptor 3, Leq	Distance (feet)	Noise Level at Receptor 4, Lmax	Noise Level at Receptor 4, Leq	Distance (feet)	Noise Level at Receptor 5, Lmax	Noise Level at Receptor 5, Leq
Demolition /Site Preparation																			
	Concrete Saw	1	20%	90	100	83.6	76.6	215	76.9	69.9	20	97.6	90.6	25	95.6	88.6	20.0	97.6	90.6
	Tractor	2	40%	84	275	72.2	68.2	345	70.2	66.3	90	81.9	77.9	190	75.4	71.4	150.0	77.5	73.5
	Dozer	1	40%	82	275	66.9	62.9	345	64.9	60.9	90	76.6	72.6	190	70.1	66.1	150.0	72.2	68.2
	Backhoe	1	40%	78	275	62.8	58.8	345	60.8	56.8	90	72.5	68.5	190	66.0	62.0	150.0	68.1	64.1
	Combined LEQ						77.4			72.0			90.9			72.9			90.7
Grading /Excavation																			
	All Other Equipment > 5 HP	1	50%	85	100	79.0	76.0	215	72.3	69.3	20	93.0	89.9	25	91.0	88.0	20.0	93.0	89.9
	Auger Drill Rig	1	20%	84	275	69.6	62.6	345	67.6	60.6	90	79.3	72.3	190	72.8	65.8	150.0	74.9	67.9
	Tractor	1	40%	84	275	69.2	65.2	345	67.2	63.2	90	78.9	74.9	190	72.4	68.4	150.0	74.5	70.5
	Dozer	1	40%	82	275	66.9	62.9	345	64.9	60.9	90	76.6	72.6	190	70.1	66.1	150.0	72.2	68.2
	Excavator	2	40%	81	275	68.9	64.9	345	66.9	63.0	90	78.6	74.6	190	72.1	68.1	150.0	74.2	70.2
	Backhoe	1	40%	78	275	62.8	58.8	345	60.8	56.8	90	72.5	68.5	190	66.0	62.0	150.0	68.1	64.1
	Combined LEQ						77.0			71.9			90.4			88.2			90.1
Utilities /Trenching																			
	All Other Equipment > 5 HP	1	50%	85	100	79.0	76.0	215	72.3	69.3	20	93.0	89.9	25	91.0	88.0	20.0	93.0	89.9
	Tractor	1	40%	84	275	69.2	65.2	345	67.2	63.2	90	78.9	74.9	190	72.4	68.4	150.0	74.5	70.5
	Combined LEQ						76.3			70.3			90.1			88.1			90.0
Paving																			
	All Other Equipment > 5 HP	1	50%	85	100	79.0	76.0	215	72.3	69.3	20	93.0	89.9	25	91.0	88.0	20.0	93.0	89.9
	Roller	1	20%	80	275	65.2	58.2	345	63.2	56.2	90	74.9	67.9	190	68.4	61.4	150.0	70.5	63.5
	Concrete Mixer Truck	1	40%	79	275	64.0	60.0	345	62.0	58.0	90	73.7	69.7	190	67.2	63.2	150.0	69.3	65.3
	Paver	1	50%	77	275	62.4	59.4	345	60.4	57.4	90	72.1	69.1	190	65.6	62.6	150.0	67.7	64.6
	Combined LEQ						76.2			70.1			90.1			88.0			90.0
Building Construction																			
	All Other Equipment > 5 HP	1	50%	85	100	79.0	76.0	215	72.3	69.3	20	93.0	89.9	25	91.0	88.0	20.0	93.0	89.9
	Crane	1	16%	81	275	65.8	57.8	345	63.8	55.9	90	75.5	67.5	190	69.0	61.0	150.0	71.1	63.1
	Generator	1	50%	81	275	65.8	62.8	345	63.8	60.8	90	75.5	72.5	190	69.0	66.0	150.0	71.1	68.0
	Welder/Torch	1	40%	74	275	59.2	55.2	345	57.2	53.2	90	68.9	64.9	190	62.4	58.4	150.0	64.5	60.5
	Combined LEQ						76.3			70.2			90.1			88.1			90.0
Renovation of Existing Use																			
	All Other Equipment > 5 HP	1	50%	85	325	68.7	65.7	115	77.8	74.8	20	93.0	89.9	285	69.9	66.9	250.0	71.0	68.0
	All Other Equipment > 5 HP	1	50%	85	380	67.4	64.4	230	71.7	68.7	100	79.0	76.0	315	69.0	66.0	290.0	69.7	66.7
	Tractor	1	40%	84	380	66.4	62.4	230	70.7	66.8	100	78.0	74.0	315	68.0	64.0	290.0	68.7	64.8
	Generator	1	50%	81	380	63.0	60.0	230	67.3	64.3	100	74.6	71.6	315	64.6	61.6	290.0	65.3	62.3
Combined LEQ							69.6			76.5			90.3			71.1			72.0
Architectural Coating																			
	Compressor (air)	1	40%	78	100	71.7	67.7	215	65.0	61.1	20	85.7	81.7	25	83.7	79.7	20.0	85.7	81.7
	Combined LEQ						67.7			61.1			81.7			79.7			81.7

Source for Ref. Noise Levels: RCNM, 2005

Shielding: City of LA EPMs requiring mufflers, equipment enclosures, and temporary walls

Construction Truck Pass-By Noise

Source	Noise Level	Reference Dist. (feet)	Dist. to Receptor (feet)	Distance Attenuation	Duration (minutes)
Truck passby (arrival, departure)	68	30	50	63.6	8.84
				Total*	8.84

Results		
Truck Pass-by Noise Levels at 50 feet from Roadway Centerline		Exceeds Daytime Noise Standard?
Metric	**Exterior**	**Exterior**
$L_{eq(15\text{-}min)}$	61.3	No
L_{max}	63.6	No

** Duration assumes 0.17 minutes per truck (52 trucks) during a pass-by event.*

Appendix G
Air Quality Studies

Appendix G-1
Construction Air Quality Assessment

Construction Air Quality Assessment

550 Shatto Place

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October 2024

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1.0 INTRODUCTION

On November 24, 2021, the City Council certified the Citywide Housing Element 2021-2029 and Safety Element Updates Final Environmental Impact Report (EIR), SCH No. 2021010130, EIR No. ENV-2020-672-EIR (Program EIR), to adopt the 2021-2029 Citywide Housing Element and the Updates to the Safety Element and the Plan for a Healthy LA (Health Element). Pursuant to CEQA Guidelines Section 15168(d), the Proposed Project has been found to be within the scope of the program analyzed in the Program EIR and its environmental effects are within the scope of environmental impacts assessed in the Program EIR. In addition, the Proposed Project is subject to applicable mitigation implemented by the Program EIR. Pursuant to Program EIR Mitigation Measure 4.2-2(a) (Construction Emissions Reduction), this report documents the results of a Construction Air Quality Assessment completed for the 550 Shatto Place Project ("Project" or "Proposed Project"). This Construction Air Quality Assessment evaluates the potential construction-related criterial pollutant emissions associated with the Project and determines the level of impact the Project's emissions would have on the environment.

1.1 Project Location

The Project Site is bounded by Shatto Place on the west, West 6th Street on the south, West 5th Street to the north, and South Westmoreland to the east as shown in Figure 1. Regional Vicinity Location Map and Figure 2. Aerial. The Project Site is served by a network of regional transportation facilities providing connectivity to the larger metropolitan area. The Project Site is 0.95 miles south of U.S. Route 101 (US 101), 1.75 miles west of Interstate 110 (I 110), and 1.89 miles north of Interstate 10 (I 10). The Project Site is close to many major bus transit lines, including Metro and DASH services (Metro Lines 18, 20, 204, 720, and 754 and the Wilshire Center/Koreatown DASH line) and is approximately 500 feet from the Wilshire/Vermont Metro Station.

1.2 Project Description

The Project Site is located at 514-550 Shatto Place (APN 5077-004-033 and 5077-004-025). The Project Site is currently occupied by the New Covenant Academy, a private school serving grades K-12 on the southern portion of the Project Site, and an approximately 27,843 square-foot four-story office building with subterranean parking on the northern portion of the Project Site. The New Covenant Academy includes a one-story (plus mezzanine) 12,800 square-foot church building which was constructed in 1936 for the First English Evangelical Lutheran Church. The "L-shaped" building is designed in the Spanish Colonial Revival architectural style and is currently used by the New Covenant Academy as a basketball court/gym, a kitchen and food hall/theatre stage and classrooms.

The Project would involve the demolition of the four-story office building and would remove some of the existing school structures, including a 4,105-square-foot one-story school classroom building, a 2,412-square-foot, two-story classroom building, and restroom and storage facilities (1,760 square feet), canopies, and surface parking. The Project would include a new eight-story building containing 318 residential units and 234 parking spaces located on the northern portion of the Project Site. Of the 318 dwelling units, 35 units (11 percent) would be restricted as affordable housing for Very Low-Income Households. On the southern portion of the Project Site, the existing former 1936 church building would be repurposed with commercial uses that would include 21,482 square feet of space.

Up to approximately 234 vehicle parking spaces would be located within three levels of parking, one at grade level and two subterranean levels. The subterranean parking would be located directly below the new residential components; no subterranean parking would be located below the retrofitted former church building. Bicycle parking spaces pursuant to the Los Angeles Municipal Code (LAMC) would be provided on-site (184 long term and 18 short term spaces).

Two driveways to serve the Project would be located along Shatto Place. The southern driveway would provide access to the commercial and residential parking on the ground level and the northern driveway would provide access to the residential parking on the subterranean levels. All loading would be internal to the Project Site and accessed via one of the two driveways along Shatto Place. Emergency vehicle access to the Project Site would be located east of the former church building from 6th Street.

The Project would provide 24,431 square feet of credited open space which would include private balconies, a central courtyard, front, side, and rear yards and various amenities including fitness areas, lounge, and club room. See Figure 3. Conceptual Site Plan.

Commercial

New commercial restaurant uses totaling up to approximately 21,482 square feet would be located in the former church building and within an outside dining patio at the corner of Shatto Place and 6th Street. The ground-level commercial uses would be accessible to the public from the sidewalk on Shatto Place.

Residential Uses

Residential uses would include approximately 241,156 square feet of floor area and up to 318 dwelling units consisting of 149 studios, 138 one-bedroom units, and 31 two-bedroom units. Of these units, 36 units of the total would be income restricted (20 dwelling units for Very Low Income and 16 units for Extremely Low Income). Residential units would be located on levels two through eight of the new building. The ground level of the residential building would include amenities such as the lobby/leasing areas, recreation room, work area, trash room, and long-term bicycle storage as well as parking for residential and commercial uses and mechanical equipment.

Pedestrian access to the residential uses would be from a dedicated lobby area on the ground floor of the new building accessible from Shatto Place. Adjacent to the lobby, are the Project's mailroom and residential offices.

Open Space

The Project has been designed to activate the pedestrian environment with the inclusion of a ground-level restaurant and outdoor patio, inclusion of open space, perimeter landscaping, large windows at the ground level and ground level and subterranean parking that is not visible from the street. The Project is required to provide 24,431 square feet of open space per LAMC Section 12.21.G. The Project would provide 24,431 square feet of required open space.

Credited open space would include private balconies, a central courtyard, front, side, and rear yards and various amenities including fitness areas, lounge, and club room. On the ground floor, outdoor open space would be located along the perimeter of the Project Site. Indoor open space would be located on the western side of the ground floor which would serve as a co-working space and wifi-lounge. On the second level of the Project, a courtyard would be located in the center of the Project Site. Additional uncredited open space would include front, side, and rear yards, deck areas, restaurant patio and a covered courtyard area.

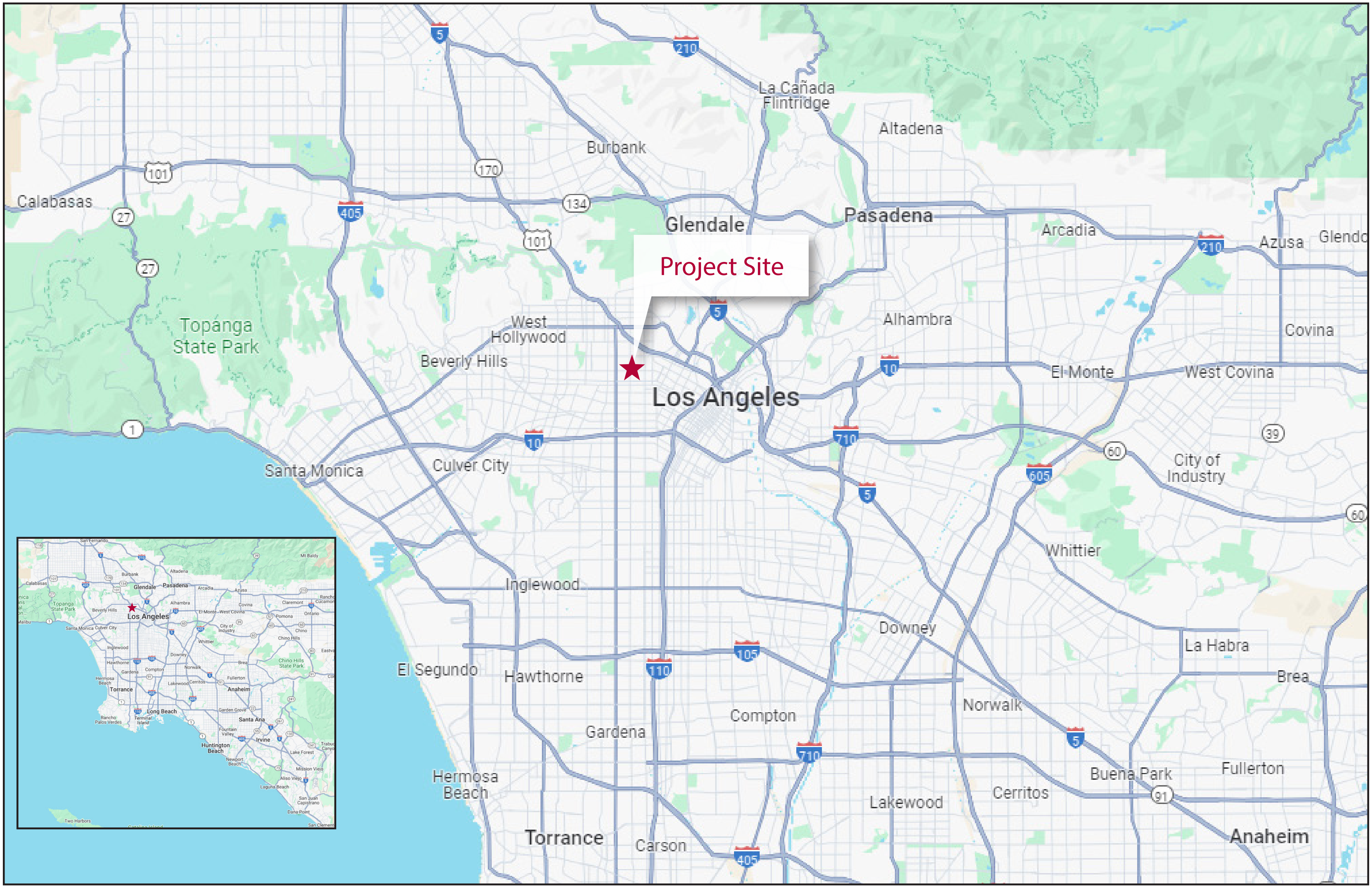
Sustainability Features

Energy saving and sustainable design would be incorporated throughout the Project. The Project would be designed to meet CALGreen and Title 24 Building Standards Code (CALGreen Code). The Project would emphasize energy and water conservation, which would be achieved through the use of energy-efficient heating, ventilation, and air conditioning (HVAC) and lighting systems, and ENERGY STAR® appliances, and low-flow plumbing fixtures.

Of the 234 parking spaces, 30 percent of the Project's parking capacity would be designated electric vehicle (EV) spaces capable of supporting future electric vehicle supply equipment (EVSE) (71 spaces), 25 percent would be EV ready by including pre-wiring for future installation of EV chargers (59 spaces), and 10 percent of spaces would include installed chargers for immediate use by EV (24 spaces) for a total of 154 EV spaces.

Construction

Construction would begin in the second Quarter 2026 and conclude in the first Quarter of 2029. No pile driving would occur. Approximately 43,849 cubic yards of soil would be exported.



SOURCE: Google Maps, 2024

N.T.S.

FIGURE 1: Regional Vicinity Location Map

550 SHATTO PLACE

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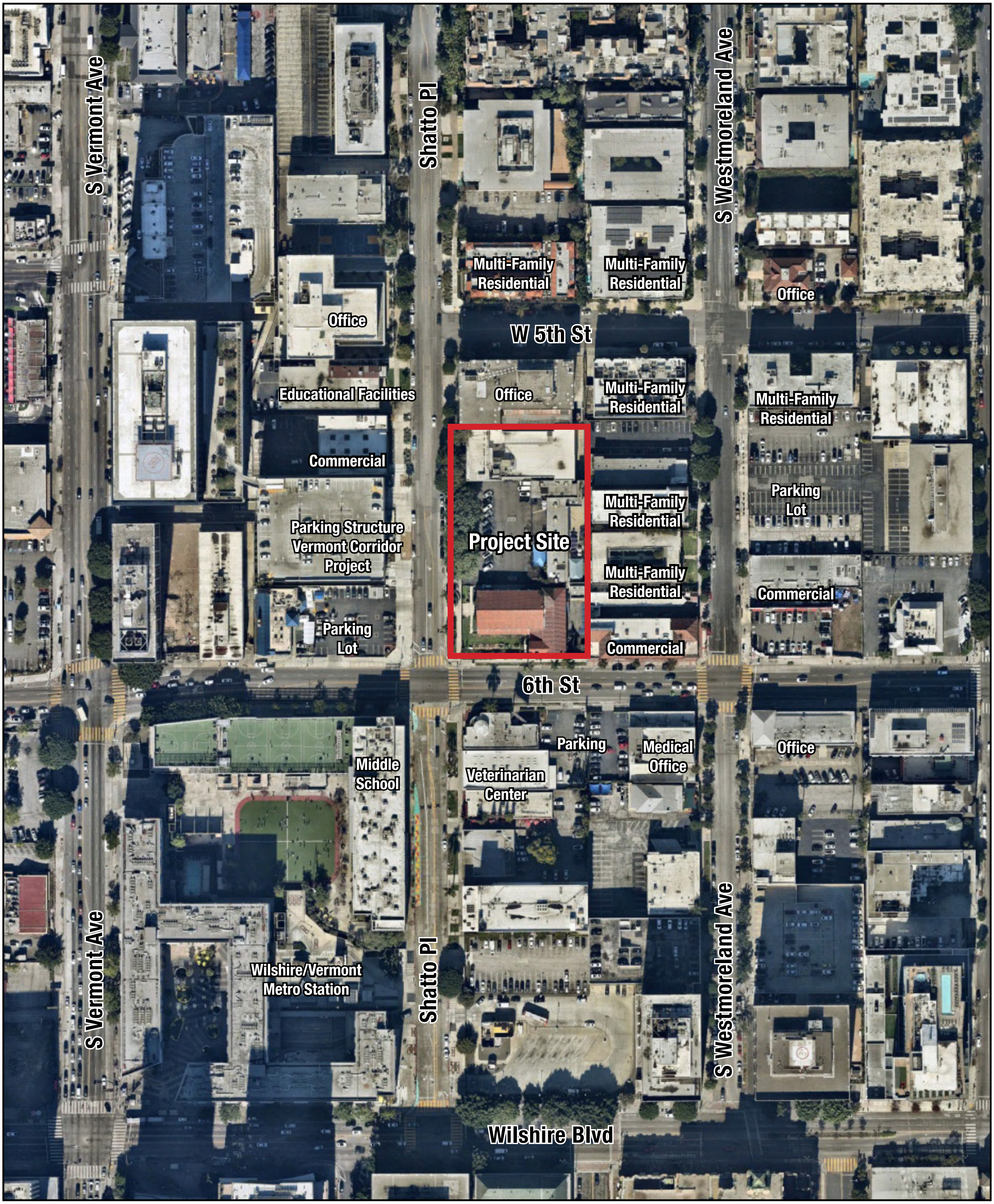

SOURCE: Nearmap, 2024

N.T.S.

FIGURE 2: Project Site and Vicinity Map

514-550 SHATTO PLACE

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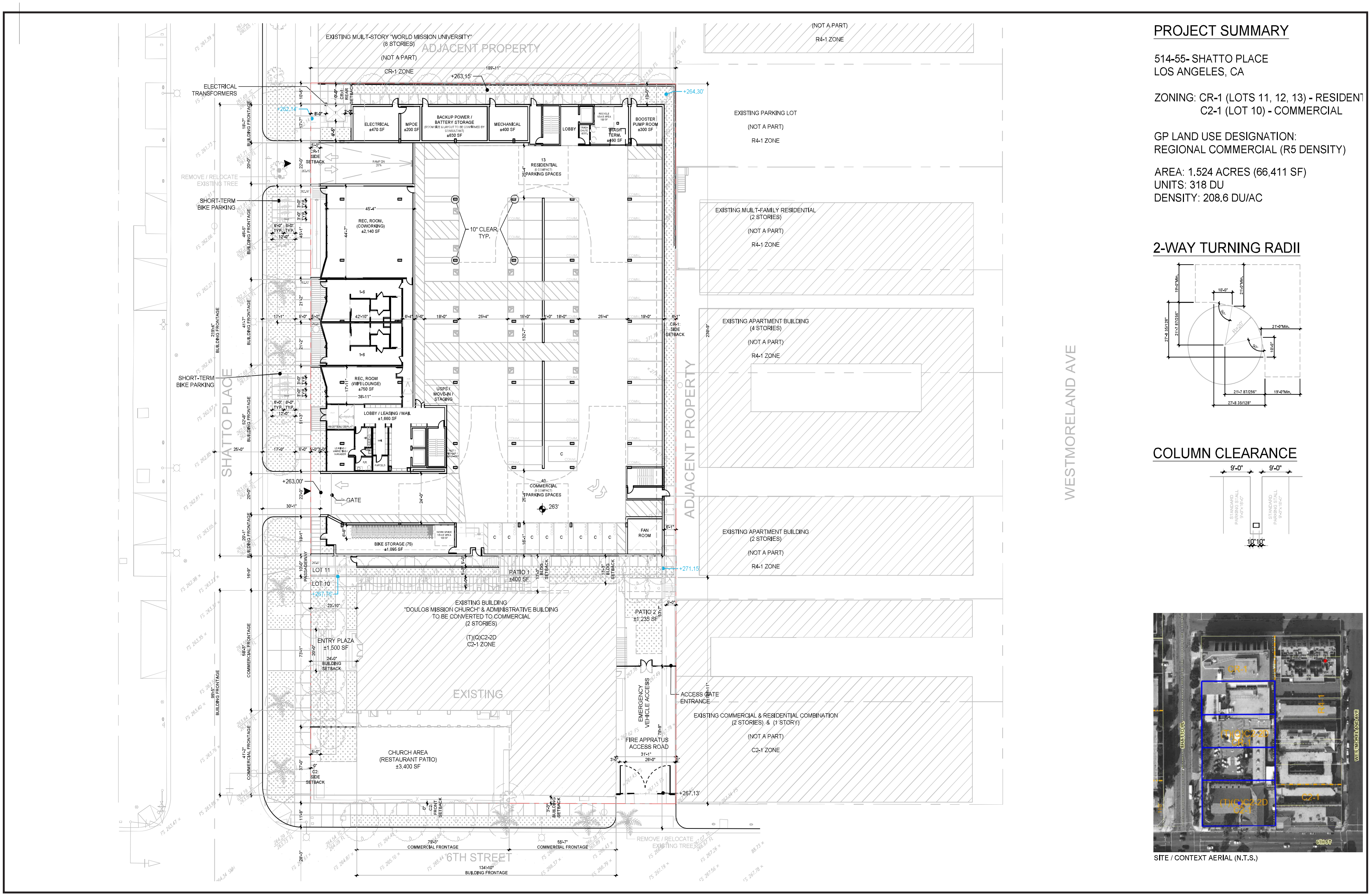

SOURCE: KTGY Architecture + Planning, 2024

N.T.S.

FIGURE 3 : Conceptual Design Site Plan

550 SHATTO PLACE

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2.0 ENVIRONMENTAL SETTING

2.1 Climate and Meteorology

The California Air Resources Board (CARB) divides the State into 15 air basins that share similar meteorological and topographical features.[1] The Project is located within the South Coast Air Basin (SCAB), which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino counties, as well as all of Orange County. The SCAB is on a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean on the southwest and high mountains forming the remainder of the perimeter.[2] Air quality in this area is determined by such natural factors as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions. These factors along with applicable regulations are discussed below.

The SCAB is part of a semi-permanent high-pressure zone in the eastern Pacific. As a result, the climate is mild and tempered by cool sea breezes. This usually mild weather pattern is occasionally interrupted by periods of extreme heat, winter storms, and Santa Ana winds. The annual average temperature throughout the 6,645-square-mile SCAB ranges from low 60 to high 80 degrees Fahrenheit with little variance. With more oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas.

Contrasting the steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all annual rainfall occurs between the months of November and April. Summer rainfall is reduced to widely scattered thundershowers near the coast, with slightly heavier activity in the east and over the mountains.

Although the SCAB has a semiarid climate, the air closer to the Earth's surface is typically moist because of the presence of a shallow marine layer. Except for occasional periods when dry, continental air is brought into the SCAB by offshore winds, the "ocean effect" is dominant. Periods of heavy fog are frequent and low clouds known as high fog are characteristic climatic features, especially along the coast. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SCAB.

Wind patterns across the SCAB are characterized by westerly or southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Wind speed is typically higher during the dry summer months than during the rainy winter. Between periods of wind, air stagnation may occur in both the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During winter and fall, surface high-pressure systems over the SCAB, combined with other meteorological conditions, result in very strong, downslope Santa Ana winds. These winds normally continue for a few days before predominant meteorological conditions are reestablished.[3]

The mountain ranges to the east affect the diffusion of pollutants by inhibiting the eastward transport of pollutants. Air quality in the SCAB generally ranges from fair to poor and is similar to air quality in

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[1] South Coast Air Quality Management District, *2022 Air Quality Management Plan*, 2022. Available at: https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/final-2022-aqmp.pdf?sfvrsn=16

[2] South Coast Air Quality Management District, *CEQA Air Quality Handbook*, 1993.

[3] California Air Resources Board, *Almanac Resources, 2024*. Available at: https://ww2.arb.ca.gov/resources/documents/almanac-resources

most of coastal Southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions.

In addition to the characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, two distinct types of temperature inversions control the vertical depth through which air pollutants are mixed. These inversions are the marine inversion and the radiation inversion. The height of the base of the inversion at any given time is called the "mixing height."[4] The combination of winds and inversions is a critical determinant leading to highly degraded air quality for the SCAB in the summer and generally good air quality in the winter.

2.2 Air Pollutants of Concern

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by state and federal laws. These regulated air pollutants are known as "criteria air pollutants" and are categorized into primary and secondary pollutants.

Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxide (NO_X), sulfur dioxide (SO_2), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead are primary air pollutants. Of these, CO, NO_X, SO_2, PM_{10}, and $PM_{2.5}$ are criteria pollutants.[5] ROG and NO_X are criteria pollutant precursors and form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere.[6] For example, the criteria pollutant ozone (O_3) is formed by a chemical reaction between ROG and NO_X in the presence of sunlight. O_3 and nitrogen dioxide (NO_2) are the principal secondary pollutants. Sources and health effects commonly associated with criteria pollutants are summarized in Table 1. Air Contaminants and Associated Public Health Concerns.

Table 1. Air Contaminants and Associated Public Health Concerns

Pollutant	Major Man-Made Sources	Human Health Effects
Particulate Matter (PM_{10} and $PM_{2.5}$)	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; asthma; chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility.
Ozone (O_3)	Formed by a chemical reaction between reactive organic gases/volatile organic compounds (ROG or VOC)[1] and nitrogen oxides (NO_X) in the presence of sunlight. Motor vehicle exhaust industrial emissions, gasoline storage and transport, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
Sulfur Dioxide (SO_2)	A colorless gas formed when fuel	Respiratory irritant. Aggravates

4 South Coast Air Quality Management District, *Final 2016 Air Quality Management Plan,* March 2017
5 U.S. Environmental Protection Agency, *Criteria Air Pollutants*, https://www.epa.gov/criteria-air-pollutants
6 Ibid.

Pollutant	Major Man-Made Sources	Human Health Effects
	containing sulfur is burned and when gasoline is extracted from oil. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to O_3. Contributes to global warming and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Lead (Pb)	Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Due to the phase out of leaded gasoline, metals processing is the major source of lead emissions to the air today. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.	Exposure to lead occurs mainly through inhalation of air and ingestion of lead in food, water, soil, or dust. It accumulates in the blood, bones, and soft tissues and can adversely affect the kidneys, liver, nervous system, and other organs. Excessive exposure to lead may cause neurological impairments such as seizures, mental retardation, and behavioral disorders. Even at low doses, lead exposure is associated with damage to the nervous systems of fetuses and young children, resulting in learning deficits and lowered IQ.

1. Volatile Organic Compounds (VOCs or Reactive Organic Gases [ROG]) are hydrocarbons/organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases including ROGs and VOCs. Both ROGs and VOCs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels. The major sources of hydrocarbons are combustion engine exhaust, oil refineries, and oil-fueled power plants; other common sources are petroleum fuels, solvents, dry cleaning solutions, and paint (via evaporation).

Sources: U.S. Environmental Protection Agency, *Criteria Air Pollutants*, https://www.epa.gov/criteria-air-pollutants, accessed October 2023

Ambient Air Quality

CARB monitors ambient air quality at approximately 250 air monitoring stations across the State. These stations usually measure pollutant concentrations ten feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. Existing levels of ambient air quality, historical trends, and projections near the Project are documented by measurements made by the South Coast Air Quality Management District (SCAQMD), the air pollution regulatory agency in the SCAB that maintains air quality monitoring stations which process ambient air quality measurements.

The closest air monitoring station to the Project that monitor ambient concentrations of O_3, CO, NO_2, PM_{10} and $PM_{2.5}$ is the Los Angeles-North Main Street (located approximately 7 miles to the southeast of the Project Site). Local air quality data from 2020 to 2022 (the latest currently available) are provided in Table 2. Ambient Air Quality Data which lists the monitored maximum concentrations and number of exceedances of state or federal air quality standards for each year.

Table 2. Ambient Air Quality Data

Criteria Pollutant	2020	2021	2022
Ozone (O_3)			
1-hour Maximum Concentration (ppm)	0.185	0.099	0.138
8-hour Maximum Concentration (ppm)	0.118	0.086	0.091
Number of Days Standard Exceeded			
CAAQS 1-hour (>0.09 ppm)	14	1	1
NAAQS 8-hour (>0.070 ppm)	22	0	1
Carbon Monoxide (CO)[2]			
1-hour Maximum Concentration (ppm)	2.092	1.962	1.672
Number of Days Standard Exceeded			
NAAQS 1-hour (>35 ppm)	0	0	0
CAAQS 1-hour (>20 ppm)	0	0	0
Nitrogen Dioxide (NO_2)			
1-hour Maximum Concentration (ppm)	0.062	0.078	0.075
Number of Days Standard Exceeded			
NAAQS 1-hour (>100 ppm)	0	0	0
CAAQS 1-hour (>0.18 ppm)	0	0	0
Particulate Matter Less Than 10 Microns (PM_{10})			
National 24-hour Maximum Concentration	83.7	64.0	61.0
State 24-hour Maximum Concentration	185.2	138.5	43.7
State Annual Average Concentration (CAAQS=20 μg/m^3)	33.9	30.9	24.1
Number of Days Standard Exceeded			
NAAQS 24-hour (>150 μg/m^3)	*	0	0
CAAQS 24-hour (>50 μg/m^3)	35.6	17.2	0
Particulate Matter Less Than 2.5 Microns ($PM_{2.5}$)			
National 24-hour Maximum Concentration	175.0	61.1	38.0
State 24-hour Maximum Concentration	175.0	61.1	33.7
Number of Days Standard Exceeded			
NAAQS 24-hour (>35 μg/m^3)	12	13	0

NAAQS = National Ambient Air Quality Standards; CAAQS = California Ambient Air Quality Standards; ppm = parts per million; μg/m^3 = micrograms per cubic meter; – = not measured
Measurements taken at the Los Angeles-North Main Street Monitoring Station at 1630 North Main Street, Los Angeles, California 90012 (CARB #70087).

Source: All pollutant measurements are from the CARB Aerometric Data Analysis and Management system database (https://www.arb.ca.gov/adam) except for CO, which were retrieved from the CARB Air Quality and Meteorological Information System (https://www.arb.ca.gov/aqmis2/aqdselect.php).

2.3 Sensitive Receptors

Sensitive populations are more susceptible to the effects of air pollution than is the general population. The City of Los Angeles CEQA Thresholds Guide defines sensitive receptors with respect to air quality as residences, schools, childcare centers, hospitals, parks, and similar uses.[7] Sensitive land uses nearest to the Project are listed in Table 3. Sensitive Receptors.

Table 3. Sensitive Receptors

Receptor Description	Distance[1] and Direction from the Project
1. Nobel University (north)	100
2. Young Oak Kim Academy (southwest)	125
3. Multifamily Residential (east)	Adjacent
4. Multifamily Residential (northeast)	Adjacent
5. World Mission University (north)	Adjacent

Source: Google Earth, 2024
1. Distance measured from the property line of the Project Site to the nearest receptor property line.

7 City of Los Angeles, *L.A. CEQA Thresholds Guide*, 2006

3.0 REGULATORY SETTING

3.1 Federal

Federal Clean Air Act

Air quality is federally protected by the Federal Clean Air Act (FCAA; 42 U.S.C. §§ 7401 et seq.) and its amendments. Under the FCAA, the United States Environmental Protection Agency (U.S. EPA) developed the primary and secondary National Ambient Air Quality Standards (NAAQS) for the criteria air pollutants including O_3, NO_2, CO, SO_2, PM_{10}, $PM_{2.5}$, and lead. Proposed projects in or near nonattainment areas could be subject to more stringent air-permitting requirements. The FCAA requires each state to prepare a State Implementation Plan to demonstrate how it will attain the NAAQS within the federally imposed deadlines.

The U.S. EPA can withhold certain transportation funds from states that fail to comply with the planning requirements of the FCAA. If a state fails to correct these planning deficiencies within two years of Federal notification, the U.S. EPA is required to develop a Federal implementation plan for the identified nonattainment area or areas. The provisions of 40 Code of Federal Regulations Parts 51 and 93 apply in all nonattainment and maintenance areas for transportation-related criteria pollutants for which the area is designated nonattainment or has a maintenance plan. The U.S. EPA has designated enforcement of air pollution control regulations to the individual states. Applicable federal standards are summarized in <u>Table 4. State and Federal Ambient Air Quality Standards</u>.

3.2 State of California

California Air Resources Board

CARB administers the air quality policy in California. The California Ambient Air Quality Standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in <u>Table 4</u>, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide, and sulfates.[8]

The California Clean Air Act (CCAA) requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with the CAAQS. These AQMPs also serve as the basis for the preparation of the State Implementation Plan for meeting the federal clean air standards for the State of California.[9] Like the U.S. EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events such as wildfires, volcanoes, etc. are not considered violations of a state standard, and are not used as a basis for designating areas as nonattainment. The applicable State standards are summarized in

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[8] California Air Resources Board, *California Ambient Air Quality Standards*, https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards

[9] South Coast Air Quality Management District, *Final 2016 Air Quality Management Plan*, March 2017. Available at: https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15

Table 4.

Table 4. State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	State Standards[1]	Federal Standards[2]
Ozone (O_3) [2, 5, 7]	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm
	1 Hour	0.09 ppm (180 µg/m^3)	NA
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)
	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)
Nitrogen Dioxide (NO_2)	1 Hour	0.18 ppm (339 µg/m^3)	0.10 ppm[11]
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)
Sulfur Dioxide (SO_2) [8]	24 Hour	0.04 ppm (105 µg/m^3)	0.14 ppm (365 µg/m^3)
	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)
	Annual Arithmetic Mean	NA	0.03 ppm (80 µg/m^3)
Particulate Matter (PM_{10}) [1, 3, 6]	24-Hour	50 µg/m^3	150 µg/m^3
	Annual Arithmetic Mean	20 µg/m^3	NA
Fine Particulate Matter ($PM_{2.5}$) [3, 4, 6, 9]	24-Hour	NA	35 µg/m^3
	Annual Arithmetic Mean	12 µg/m^3	9 µg/m^3
Sulfates (SO_{4-2})	24 Hour	25 µg/m^3	NA
Lead (Pb) [10, 11]	30-Day Average	1.5 µg/m^3	NA
	Calendar Quarter	NA	1.5 µg/m^3
	Rolling 3-Month Average	NA	0.15 µg/m^3
Hydrogen Sulfide (H_2S)	1 Hour	0.03 ppm (42 µg/m^3)	NA
Vinyl Chloride (C_2H_3Cl) [10]	24 Hour	0.01 ppm (26 µg/m^3)	NA

ppm = parts per million; µg/m^3 = micrograms per cubic meter; mg/m^3 = milligrams per cubic meter; – = no information available.

1 California standards for O_3, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM_{10}, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour or 24-hour average (i.e. all standards except for lead and the PM_{10} annual standard), then some measurements may be excluded. Measurements are excluded that CARB determines would occur less than once per year on the average. The Lake Tahoe carbon monoxide standard is 6.0 ppm, a level one-half the national standard and two-thirds the State standard.

2. National standards shown are the "primary standards" designed to protect public health. National standards other than for O_3, particulates and those based on annual averages are not to be exceeded more than once a year. The 1-hour O_3 standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour O_3 standard is attained when the 3-year average of the 4th highest daily concentrations is 0.070 ppm or less. The 24-hour PM_{10} standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 µg/m_3. The 24-hour $PM_{2.5}$ standard is attained when the 3-year average of 98th percentiles is less than 35 µg/m^3.

3. Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM_{10} is met if the 3-year average falls below the standard at every site. The annual $PM_{2.5}$ standard is met if the 3-year average of annual averages spatially-averaged across officially designed clusters of sites falls below the standard.
   NAAQS are set by the U.S. EPA at levels determined to be protective of public health with an adequate margin of safety.

4. On October 1, 2015, the national 8-hour O_3 primary and secondary standards were lowered from 0.075 to 0.070 ppm. An area will meet the standard if the fourth-highest maximum daily 8-hour O_3 concentration per year, averaged over three years, is equal to or less than 0.070 ppm. U.S. EPA will make recommendations on attainment designations by October 1, 2016, and issue final designations October 1, 2017. Nonattainment areas will have until 2020 to late 2037 to meet the health standard, with attainment dates varying based on the O_3 level in the area.

5. The national 1-hour O_3 standard was revoked by the U.S. EPA on June 15, 2005.

6. In June 2002, CARB established new annual standards for $PM_{2.5}$ and PM_{10}.

7. The 8-hour California O_3 standard was approved by the CARB on April 28, 2005 and became effective on May 17, 2006.
8. On June 2, 2010, the U.S. EPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99^{th} percentile of 1-hour daily maximum concentrations. The existing 0.030 ppm annual and 0.14 ppm 24-hour SO_2 NAAQS however must continue to be used until one year following U.S. EPA initial designations of the new 1-hour SO_2 NAAQS.
9. In February 2024, U.S. EPA strengthened the annual $PM_{2.5}$ NAAQS from 12.0 to 9.0 $\mu g/m^3$. Areas designated "unclassifiable/attainment" must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is 90 days following the publication of the notice of final rulemaking in the Federal Register (pending).
10. CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure below which there are no adverse health effects determined.
11. National lead standard, rolling 3-month average: final rule signed October 15, 2008. Final designations effective December 31, 2011.

Source: South Coast Air Quality Management District, *Air Quality Management Plan*, 2022; California Air Resources Board, *Ambient Air Quality Standards*, May 6, 2016 and U.S. Environmental Protection Agency, *NAAQS Tables*, 2024, available at: https://www.epa.gov/criteria-air-pollutants/naaqs-table

3.3 Regional

South Coast Air Quality Management District

The SCAQMD is the air pollution control agency for Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino Counties. The agency's primary responsibility is ensuring that state and federal ambient air quality standards are attained and maintained in the SCAB. The SCAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, conducting public education campaigns, and many other activities. All projects are subject to SCAQMD rules and regulations in effect at the time of construction.

The SCAQMD is also the lead agency in charge of developing each AQMP, with input from the Southern California Association of Governments (SCAG) and CARB. The AQMP is a comprehensive plan that includes control strategies to reduce emissions from stationary and area sources, as well as for on-road and off-road mobile sources. SCAG has the primary responsibility for providing future growth projections and the development and implementation of transportation control measures. CARB, in coordination with federal agencies, has jurisdiction over mobile sources.

The 2016 AQMP was adopted by the SCAQMD Governing Board on March 3, 2017.[10] The purpose of the 2016 AQMP is to set forth a comprehensive and integrated program that would lead the SCAB into compliance with those NAAQS for which the basin is in nonattainment (i.e., the federal 24-hour $PM_{2.5}$ air quality standard), and to provide an update to the SCAQMD's commitments towards meeting the federal 8-hour O_3 standards. The 2016 AQMP incorporated the latest scientific and technological information and planning assumptions, including the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS) and updated emission inventory methodologies for various source categories.[11]

On October 1, 2015, the U.S. EPA strengthened the NAAQS for ground-level O_3. The 2022 AQMP, adopted by the SCAQMD Governing Board on December 2, 2022, was developed to address the

[10] South Coast Air Quality Management District, *Final 2016 Air Quality Management Plan*, March 2017. Available at: https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15

[11] Southern California Association of Governments, *The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy*, April 2016. Available at: https://scag.ca.gov/sites/main/files/file-attachments/f2016rtpscs.pdf?1606005557

strengthened requirements for meeting the 2015 ground-level 8-hour O_3 standard.[12] The 2022 AQMP builds upon measures already in place from previous AQMPs. It also includes a variety of additional strategies such as regulation, accelerated deployment of available cleaner technologies (e.g., zero emissions technologies, when cost-effective and feasible, and low NO_X technologies in other applications), best management practices, co-benefits from existing programs (e.g., climate and energy efficiency), incentives, and other FCAA measures to achieve the 2015 8-hour ozone standard. Like earlier AQMPs, the 2022 AQMP incorporates the latest scientific and technological information and planning assumptions, including the *2020-2045* RTP/SCS and updated emission inventory methodologies for various source categories.[13]

The SCAQMD has published the CEQA Air Quality Handbook (approved by the SCAQMD Governing Board in 1993 and augmented with guidance for Local Significance Thresholds [LST] in 2008).[14] The SCAQMD guidance helps local government agencies and consultants to develop environmental documents required by California Environmental Quality Act (CEQA) and suggests thresholds of significance for criteria pollutants for both construction and operation (see discussion of thresholds below). With the help of SCAQMD's CEQA Air Quality Handbook and associated guidance, local land use planners and consultants are able to analyze and document how proposed and existing projects affect air quality in order to meet the requirements of the CEQA review process. The SCAQMD periodically provides supplemental guidance and updates to the handbook on their website.

The SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. Under federal law, SCAG is designated as a Metropolitan Planning Organization and under State law as a Regional Transportation Planning Agency and a Council of Governments.

The state and federal attainment status designations for the SCAB are summarized in Table 5. South Coast Air Basin Attainment Status. The SCAB is currently designated as a nonattainment area with respect to the State O_3, PM_{10}, and $PM_{2.5}$ standards, as well as the national 8-hour O_3 and $PM_{2.5}$ standards. The SCAB is designated as attainment or unclassified for the remaining state and federal standards.

Table 5. South Coast Air Basin Attainment Status

Pollutant	State	Federal
Ozone (O_3) (1 Hour Standard)	Non-Attainment	Non-Attainment (Extreme)
Ozone (O_3) (8 Hour Standard)	Non-Attainment	Non-Attainment (Extreme)
Particulate Matter ($PM_{2.5}$) (24 Hour Standard)	–	Non-Attainment (Serious)
Particulate Matter ($PM_{2.5}$) (Annual Standard)	Non-Attainment	Non-Attainment (Moderate)

[12] South Coast Air Quality Management District, *2022 Air Quality Management Plan*, December 2022. Available at: https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/final-2022-aqmp.pdf?sfvrsn=16

[13] Southern California Association of Governments, *Connect SoCal (2020 – 2045 Regional Transportation Plan/Sustainable Communities Strategy)*, September 2020. Available at: https://scag.ca.gov/read-plan-adopted-final-connect-socal-2020

[14] South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, July 2008. Available at: https://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds

Pollutant	State	Federal
Particulate Matter (PM_{10}) (24 Hour Standard)	Non-Attainment	Attainment (Maintenance)
Particulate Matter (PM_{10}) (Annual Standard)	Non-Attainment	–
Carbon Monoxide (CO) (1 Hour Standard)	Attainment	Attainment (Maintenance)
Carbon Monoxide (CO) (8 Hour Standard)	Attainment	Attainment (Maintenance)
Nitrogen Dioxide (NO_2) (1 Hour Standard)	Attainment	Unclassifiable/Attainment
Nitrogen Dioxide (NO_2) (Annual Standard)	Attainment	Attainment (Maintenance)
Sulfur Dioxide (SO_2) (1 Hour Standard)	Attainment	Unclassifiable/Attainment
Sulfur Dioxide (SO_2) (24 Hour Standard)	Attainment	–
Lead (Pb) (30 Day Standard)	–	Unclassifiable/Attainment
Lead (Pb) (3 Month Standard)	Attainment	Nonattainment (Partial)[1]
Sulfates (SO_{4-2}) (24 Hour Standard)	Attainment	–
Hydrogen Sulfide (H_2S) (1 Hour Standard)	Unclassified	–
Source: South Coast Air Quality Management District, *Air Quality Management Plan*, 2022; U.S. Environmental Protection Agency, *Nonattainment Areas for Criteria Pollutants (Green Book)*, 2024.		

The following is a list of SCAQMD rules with which construction activities associated with the Project must comply:

- **Rule 401 (Visible Emissions) –** A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any 1 hour that is dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.
- **Rule 402 (Nuisance) –** This rule prohibits the discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing or crops or the raising of fowl or animals.
- **Rule 403 (Fugitive Dust)** - This rule requires fugitive dust sources to implement best available control measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. This rule is intended to reduce PM10 emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. PM10 suppression techniques are summarized below.
    a) Portions of a construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized.

b) All on-site roads are paved as soon as feasible, watered regularly, or chemically stabilized.

c) All material transported off-site will be either sufficiently watered or securely covered to prevent excessive amounts of dust.

d) The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized at all times.

e) Where vehicles leave a construction site and enter adjacent public streets, the streets will be swept daily or washed down following the work day to remove soil from pavement.

- **Rule 431.2 (Sulfur Content of Liquid Fuels)** - This rule limits the sulfur content in diesel and other liquid fuels for the purpose of both reducing the formation of sulfur oxides and particulates during combustion and to enable the use of add-on control devices for diesel fueled internal combustion engines.
- **Rule 1113 (Architectural Coatings) –** This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce ROG emissions from the use of these coatings, primarily by placing limits on the ROG content of various coating categories.
- **Rule 1138 (Control of Emissions from Restaurant Operations) –** This rule applies to chain-driven charbroilers used to cook meat and requires that charbroilers be equipped with emissions control devices such as catalytic oxidizers.
- **Rule 1153 (Emissions of Oxides of Nitrogen from Commercial Food Ovens) –** This rule requires owners and operators of gaseous and liquid fuel-fired Commercial Food Ovens to reduce NO_X and CO emissions.

4.0 SIGNIFICANCE CRITERIA AND METHODOLOGY

4.1 Air Quality Thresholds

On November 24, 2021, the City Council certified the Citywide Housing Element 2021-2029 and Safety Element Updates Final Environmental Impact Report (EIR), SCH No. 2021010130, EIR No. ENV-2020-672-EIR (Program EIR), to adopt the 2021-2029 Citywide Housing Element and the Updates to the Safety Element and the Plan for a Healthy LA (Health Element). Pursuant to CEQA Guidelines Section 15168(d), the Proposed Project has been found to be within the scope of the program analyzed in the Program EIR and its environmental effects are within the scope of environmental impacts assessed in the Program EIR. In addition, the Proposed Project is subject to applicable mitigation implemented by the Program EIR.

Pursuant to Program EIR Mitigation Measure 4.2-2(a) (Construction Emissions Reduction), discretionary projects requiring either: demolition of more than 13,500 square feet of building area; greater than 5,000 cubic yards of soil cut/fill; greater than 5-acres if graded area; or use of more than ten pieces of heavy-duty construction equipment and 150 truck trips on any given day during demolition, site clearing, or grading are required to prepare and submit an air quality analysis demonstrating that project emissions are less than applicable SCAQMD regional and localized significance thresholds. The proposed Project would require demolition of 27,843 square feet and the export of approximately 43,849 cubic yards of soil.

South Coast Air Quality Management District

Regional Emissions Significance Thresholds

Pursuant to the significance criteria established by SCAQMD may be relied upon to make the above determinations. According to the CEQA Appendix G, an air quality impact is considered significant if the Project would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The SCAQMD has established thresholds of significance for criteria pollutant and precursor emissions during construction activities of land use development projects, as shown in Table 6. South Coast Air Quality Management District Emissions Thresholds.

Table 6. South Coast Air Quality Management District Emissions Thresholds

Criteria Air Pollutants and Precursors	Construction-Related Daily Emissions (pounds/day)
Reactive Organic Gases (ROG)	75
Carbon Monoxide (CO)	550
Nitrogen Oxides (NO_X)	100
Sulfur Oxides (SO_X)	150
Coarse Particulates (PM_{10})	150
Fine Particulates ($PM_{2.5}$)	55
Source: South Coast Air Quality Management District, *CEQA Air Quality Significance Thresholds,* March 2023.	

Localized Significance Thresholds

The SCAQMD developed LSTs for emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at new development sites (off-site mobile source emissions are not included in the LST analysis). LSTs represent the maximum emissions that can be generated at a project site without expecting to cause or substantially contributing to an exceedance of the most stringent state or federal ambient air quality standards. LSTs are based on the ambient concentrations of that pollutant within the Project source receptor area (SRA), as demarcated by the SCAQMD, and the distance to the nearest sensitive receptor. LST analysis for construction is required for all projects that disturb 5 acres or less on a single day. The Project Site is located within SCAQMD SRA 1 (Central Los Angeles). Table 7. Local Significance Thresholds for Construction, shows the LSTs for 1-acre, 2-acre, and 5-acre projects in SRA 1 with sensitive receptors located within 25 meters of the Project Site, which represents the closest distance for LSTs.

Table 7. Local Significance Thresholds for Construction

Project Size	Nitrogen Oxide (NO_x) – lbs/day	Carbon Monoxide (CO) – lbs/day	Coarse Particulates (PM_{10}) – lbs/day	Fine Particulates ($PM_{2.5}$) – lbs/day
1 Acre	74	680	5	3
2 Acres	108	1,048	8	5
5 Acres	161	1,861	16	8
Source: South Coast Air Quality Management District, *Localized Significance Threshold Methodology,* July 2008.				

LSTs associated with all acreage categories are provided in Table 7 for informational purposes. Table 7 shows that the LSTs increase as acreages increase. It should be noted that LSTs are screening thresholds and are therefore conservative. The construction LST acreage is determined based daily acreage disturbed.

4.2 Methodology

This air quality assessment considers construction impacts associated with the Project. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod) version 2022. CalEEMod is a Statewide land use emissions computer model designed to quantify potential criteria pollutant emissions from a variety of land use projects. Air quality impacts were assessed according to methodologies recommended by CARB and the SCAQMD.

Construction equipment, trucks, worker vehicles, and ground-disturbing activities associated with Project construction would generate emissions of criteria air pollutants and precursors. Daily regional construction emissions are estimated by assuming construction occurs at the earliest feasible date (i.e., a conservative estimate of construction activities) and applying off-road, fugitive dust, and on-road emissions factors in CalEEMod.

As discussed above, the SCAQMD provides significance thresholds for emissions associated with proposed Project construction. The proposed Project's construction emissions are compared to the daily criteria pollutant emissions significance thresholds in order to determine the significance of a Project's impact on regional air quality.

The localized effects from the Project's on-site emissions for construction were evaluated in accordance with the SCAQMD's LST methodology, which uses on-site mass emissions rate look-up tables and Project-specific modeling. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

5.0 POTENTIAL IMPACTS AND MITIGATION

5.1 Regional Construction Emissions

Construction associated with the Project would generate short-term emissions of criteria air pollutants. The criteria pollutants of primary concern within the SCAB include ozone-precursor pollutants (i.e., ROG and NO_X), PM_{10}, and $PM_{2.5}$. Construction-generated emissions of these criteria pollutants would be short-term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated were to exceed the SCAQMD's thresholds of significance.

Project construction would result in the temporary generation of criteria pollutant emissions from all phases of construction, including demolition, excavation, site preparation, grading, infrastructure improvements, paving, building construction, and architectural coating, as well as from motor vehicle exhaust associated with construction equipment, materials deliveries and worker trips, and the movement of construction equipment, especially on unpaved surfaces. Emissions of airborne particulate matter are largely generated by motor vehicle exhaust and ground disturbance; the volume of airborne particulate matter is largely dependent on the amount of ground disturbance associated with site preparation activities, as well as weather conditions and the appropriate application of water.

Construction activities for the Project were assumed to begin in 2026. Construction-generated emissions associated with the Project were calculated using the CARB-approved California Emissions Estimator Model (CalEEMod), version 2022, which is designed to model emissions for land use development projects based on typical construction requirements. It was assumed that all construction equipment operated during each individual phase would be operated simultaneously, to provide a conservative analysis. See Appendix A: Air Quality Data for more information regarding the construction assumptions used in this analysis. The predicted maximum daily construction-generated criteria pollutant emissions for the proposed Project are reported in Table 8. Project Construction Criteria Pollutant Emissions.

Table 8. Project Construction Criteria Pollutant Emissions

Construction Year	Emissions (pounds per day)[1, 2]					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Year 1 (2026)	1.16	13.83	33.90	0.08	4.37	1.71
Year 2 (2027)	1.12	5.17	32.55	0.02	4.23	1.03
Year 3 (2028)	9.03	11.56	67.02	0.04	9.95	2.42
Year 4 (2029)	8.92	11.08	64.69	0.04	9.95	2.42
SCAQMD Threshold	75	100	550	150	150	55
SCAQMD Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

1. Mandatory compliance with SCAQMD Rule 403 Fugitive Dust assumed. The Rule 403 reduction/credits include the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; water all haul roads twice daily. Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied. No mitigation was applied to construction equipment.
2. Incorporation of PDF-1.

Source: CalEEMod version 2022. Refer to Appendix A for model outputs.

The results summarized in Table 8 show that the Project's regional criteria pollutant emissions during construction would remain below applicable thresholds.

Project emissions account for compliance with SCAQMD Rule 403 and Project Design Feature (PDF) AIR-1. Rule 403 includes properly maintaining mobile and other construction equipment, replacing ground cover in disturbed areas quickly, water exposed surfaces three times daily, and water all haul roads twice daily. PDF AIR-1 includes meeting CARB Tier 4 requirements for equipment greater than 50 horsepower, electric powered crane and welders, and gas-powered forklifts.

Project construction would also comply with SCAQMD Rules 402 (Nuisance)[15] and 1113 (Architectural Coatings)[16] and CARB's anti-idling regulations, which prohibit idling for more than five minutes; however, compliance with these rules was not assumed when estimating the Project's construction emissions for Table 8, above. Therefore, the Project's maximum-day construction emissions of criteria pollutants would be even lower than reported in Table 8 when the Project's compliance with SCAQMD Rules 402 and 1113 and CARB's anti-idling regulations are taken into account.

As shown above, the Project's estimated criteria pollutant emissions during construction would be below their respective thresholds such that approval of the Project would not result in any significant project-level effects relating to regional construction air pollutant emissions.

5.2 Localized Construction Significance Analysis

The nearest sensitive receptors to the Project Site are the multifamily residential uses adjacent to the east and World Mission University adjacent to the north. To assess the potential for Project construction to create impacts to sensitive receptors, the SCAQMD recommends utilizing its Localized Significance Thresholds (LSTs) for construction. The LSTs were developed in response to the SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4) and are based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the state or federal ambient air quality standard (the more stringent of the two).[17] The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]) for guidance.[18] The LST methodology assists lead agencies in their project-specific analysis of the potential localized impacts associated with proposed projects.

Since CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily soil disturbance activity possible for each piece of equipment, Table 9. Equipment-Specific Grading Rates was used to determine the maximum daily disturbed acreage for the LST analysis.[19] For this Project, the appropriate source receptor area (SRA) for the LSTs is the Central LA (SRA 1) area, since this area includes the Project Site. LSTs only take into consideration

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15 SCAQMD Rule 402 prohibits the discharge of quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of people or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public or have a natural tendency to cause injury or damage to business or property.

16 SCAQMD Rule 1113 sets limits on the VOC content of architectural coatings.

17 South Coast Air Quality Management District, *Localized Significance Thresholds*, https://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds

18 South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, Revised 2008, http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds

19 South Coast Air Quality Management District, *Sample Construction Scenarios for Projects Less than Five Acres in Size*, February 2005. https://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-sample-construction-scenario-report.pdf?sfvrsn=2

emissions of NO_X, CO, PM_{10}, and $PM_{2.5}$.[20] The SCAQMD produced look-up tables for projects that disturb areas less than or equal to 5 acres in size.[21] Based on the daily equipment modeled in CalEEMod, Project construction is anticipated to disturb approximately 1.5 acre in a single day. Thus, the LSTs applicable to this Project uses the SCAQMD-produced look up tables for a 1.5-acre site.

Table 9. Equipment-Specific Grading Rates

Construction Phase	Equipment Type	Equipment Quantity	Acres Graded per 8-Hour Day	Operating Hours per Day	Acres Graded per Day
Grading	Tractor/Backhoe	2	0.5	8	1
	Dozer	1	0.5	8	0.5
Total Acres Graded per Day					1.5
Source: CalEEMod version 2022					

The SCAQMD's methodology states that "off-site mobile emissions from the Project should not be included in the emissions compared to LSTs."[22] Therefore, for purposes of the construction LST analysis, only the emissions included in the CalEEMod "on-site" emissions outputs were considered. LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. SCAQMD's LST guidance recommends using the 25-meter threshold for receptors located 25 meters (or approximately 82 feet) or less from the Project Site.[23] Therefore, the LSTs for 1.5 acre at 25 meters were used for the construction analysis, which is consistent with the SCAQMD LST methodology.

Table 10. Localized Significance of Construction Emissions presents the emissions modeling results for the Project's localized emissions during construction. As stated above, compliance with SCAQMD Rules 402 and 1113 and CARB anti-idling regulations were not assumed when estimating the Project's localized construction emissions for Table 10. Therefore, the Project's maximum-day localized construction emissions would actually be even lower than reported in Table 10. Table 10 shows that the emissions of these pollutants on the peak day of construction would not exceed the LSTs and therefore would not be expected to create substantial concentrations of pollutants at the sensitive receptors closest to the Project Site or cause or contribute to an exceedance of federal or state ambient air quality standards. Therefore, approval of the Project would not result in any significant effects relating to localized construction air pollutant concentrations.

[20] South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, Revised 2008, http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds

[21] South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology, Appendix C – Mass Rate LST Look-up Tables*, Revised 2008, http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds

[22] South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, Revised 2008, http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds

[23] Ibid

Table 10. Localized Significance of Construction Emissions

Source/Activity	Emissions (pounds per day)[1,2]			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Demolition	2.3	14.6	1.4	0.2
Grading/Excavation	3.3	16.7	1.8	0.9
Utilities/Trenching	0.9	3.2	<0.1	<0.1
Building Construction	1.1	11.3	<0.1	<0.1
Architectural Coating/Finishing	0.9	1.3	<0.1	<0.1
Paving	1.4	5.6	<0.1	<0.1
Renovation of Existing Use	2.0	14.3	<0.1	<0.1
<u>Overlapping Phases</u>				
Grading/Excavation + Utilities/Trenching	4.2	19.9	1.8	0.9
Utilities/Trenching + Building Construction	2.1	14.5	<0.1	<0.1
Utilities/Trenching + Building Construction + Architectural Coating	2.9	15.8	<0.1	<0.1
Building Construction + Architectural Coating + Renovation of Existing Use	4.0	26.9	<0.1	<0.1
Paving + Building Construction + Architectural Coating + Renovation of Existing Use	5.3	32.5	<0.1	<0.1
Maximum Daily Emissions	**4**	**27**	**1.8**	**0.9**
SCAQMD LST (for 1.5 acre at 25 meters)	*91*	*864*	*7*	*4*
Maximum Daily Emissions Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**

1. Worst-case seasonal maximum daily emissions are reported.
2. Mandatory compliance with SCAQMD Rule 403 Fugitive Dust applied for construction emissions. The Rule 403 reduction/credits include the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; water all haul roads twice daily. Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied. No mitigation was applied to construction equipment.

Source: CalEEMod version 2022. Refer to <u>Appendix A</u> for model outputs.

5.3 Project Design Features and Mitigation Measures

Program EIR Mitigation Measures

4.2-2(a) Construction Emissions Reduction

For discretionary projects, prior to issuance of a permit to construct and at the expense of the project applicant, the City shall retain a qualified air quality analyst to prepare an Air Quality Impact Analysis to analyze construction emissions for any discretionary project that would include either: demolition of more than 13,500 square feet of building area; greater than 5,000 cubic yards of soil cut/fill; greater than 5-acres of graded area; or use of more than ten pieces of heavy-duty construction equipment and 150 truck trips on any given day during demolition, site clearing, or grading. The air quality analysis shall demonstrate that project emissions are less than applicable SCAQMD regional and LST thresholds, and as applicable may include, but is not limited to, the following mitigation.

- Off-road diesel-powered construction equipment greater than 50 horsepower shall be certified for either the Tier 4 Final emission standards, where available. In the event that Tier 4 engines are not available for any off-road equipment larger than 100 horsepower, that equipment shall be equipped with a Tier 3 engine or an engine that is equipped with retrofit controls to reduce exhaust emissions of

NO_X and DPM to no more than Tier 3 levels unless certified by engine manufacturers or the onsite air quality construction mitigation manager that the use of such devices is not practical for specific engine types.

- All construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.
- Vehicle idling shall be limited to five minutes as set forth in the California Code of Regulations, Title 13. Signs shall be posted in areas where they will be seen by vehicle operators stating idling time limits.
- Construction contractors shall utilize construction equipment that uses low polluting fuels (i.e. compressed natural gas, liquid petroleum gas, and unleaded gasoline) to the extent that they are available and feasible to use.
- Heavy duty diesel-fueled equipment shall use low NO_X diesel fuel to the extent that it is available and feasible to use.
- Construction haul truck operators for demolition debris and import/export of soil shall use trucks that meet the California Air Resources Board's (CARB) 2010 engine emissions standards at 0.01 grams per brake horsepower-hour of PM and 0.20 grams per brake horsepower-hour of NO_X emissions. Operators shall maintain records of all trucks associated with project construction to document that each truck used meets these emission standards and shall make these records available for inspection upon request by the City of Los Angeles or the South Coast Air Quality Management District (SCAQMD).
- Construction contractors shall use electricity from power poles rather than temporary gasoline or diesel-powered generators, as feasible, or solar where available.
- Construction with SCAQMD Rule 403, construction contractors shall identify and implement best available dust control measures during active construction operations capable of generating dust.
- Construction contractors shall maintain construction equipment in good, properly tuned operating condition, as specified by the manufacturer, to minimize exhaust emissions. Documentation demonstrating that the equipment has been maintained in accordance with the manufacturer's specifications shall be kept on-site and made available to LADBS inspectors during inspection.
- Construction contractors shall reroute construction trucks away from congested streets or sensitive receptor areas, as feasible.

The Project would implement all requirements of this mitigation measure. Construction emissions included herein includes the use of Tier 4 final off-road diesel-powered equipment, electric-powered cranes and welders, and natural gas-powered forklifts. The Project would also utilize low-VOC coatings where commercially available and requires that all trucks and other vehicles in loading and unloading queues to park with engines off. Other components of the mitigation measure have not been included in modeling assumptions. However, implementation is required through Mitigation Measure 4.2-2(a) and emissions would be further reduced below already less than significant levels.

Project-Specific Measures

The City prepared a SCEA pursuant to CEQA for the 550 Shatto Place/Soul Project (Approved Project) to assess potential environmental impacts. The Approved Project included the construction of a 31-story, mixed-use tower with 256 residential units and 329 underground parking stalls. The northern portion of the project site included 2,507 square feet of office space with four townhouse units above the office uses. In addition, the existing 1936 church building would be preserved and repurposed into 12,800 square feet of restaurant uses, with limited architectural alterations that will not affect the structure's historic characteristics or potential for eligibility in any federal, state, or local register of historic resources.

On August 14, 2019, the City Council approved the SCEA for the Approved Project. The SCEA concluded that all of the Approved Project's environmental impacts would be less than significant, with the implementation of Project Design Features (PDF) and Mitigation Measures (MMs). The following PDF is applicable to air quality for the Project.

Project Design Features

The following Project Design Feature would be included during Project construction.

> **PDF AIR-1:** Construction equipment operating at the Project Site shall be subject to a number of requirements. These requirements shall be included in applicable bid documents and successful contractor(s) must demonstrate the ability to supply such equipment. Construction measures would include, but are not limited to the following:
>
> - Prior to the issuance of a grading or building permit for each phase, an inventory of off-road heavy-duty construction equipment for that phase of construction, equal to or greater than 50 horsepower that will be used an aggregate of 40 or more hours, shall be provided to the Department of Building and Safety and the Department of City Planning. The inventory shall include the horsepower rating, engine production year, and certification of the specified Tier standard. A copy of each unit's certified tier specification or model year specification and California Air Resources Board or South Coast Air Quality Management District operating permit (if applicable) shall be available upon request at the time of mobilization of each applicable unit of equipment.
> - Off-road diesel-powered equipment within the construction inventory shall meet the Tier 4 final off-road emissions standards within the Los Angeles region. Such equipment shall be outfitted with Best Available Control Technology (BACT) devices including a California Air Resources Board certified Level 3 Diesel Particulate Filter or equivalent;
> - All cranes and welders shall be electric-powered;
> - Forklifts shall be natural gas-powered;

- The Project shall utilize low-VOC coatings where commercially available during construction activities to avoid excessive VOC emissions; and
- Trucks and other vehicles in loading and unloading queues shall be parked with engines off to reduce vehicle emissions during construction activities.

PDF AIR-1 is consistent with the requirements of Program EIR MM 4.2-2(a) and provides project-specific measures. Therefore, the Project-specific PDF is equal to Program EIR MM 4.2-2(a) at reducing impacts to less than significant and no new significant impact would result.

Mitigation Measures

No mitigation measures are required.

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Appendix A

Air Quality Modeling Data

Shatto Place - Proposed Construction Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Shatto Place - Proposed Construction
Construction Start Date	5/1/2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	0.50
Precipitation (days)	16.8
Location	514 Shatto Pl, Los Angeles, CA 90020, USA
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4008
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	318	Dwelling Unit	0.47	241,156	3,054	0.00	941	—

High Turnover (Sit Down Restaurant)	21.5	1000sqft	0.24	21,482	0.00	0.00	—	—
Enclosed Parking with Elevator	234	Space	0.61	103,087	0.00	0.00	—	—
Other Non-Asphalt Surfaces	0.21	Acre	0.21	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.83	13.8	66.6	0.08	0.17	9.75	9.79	0.17	2.33	2.36	—	13,384	13,384	0.58	1.33	33.3	13,658
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	9.03	11.6	67.0	0.04	0.07	9.89	9.95	0.06	2.36	2.42	—	13,865	13,865	0.30	0.80	0.87	14,111
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.95	5.74	35.0	0.02	0.04	5.47	5.49	0.04	1.30	1.32	—	7,348	7,348	0.16	0.43	8.09	7,489
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.09	1.05	6.40	< 0.005	0.01	1.00	1.00	0.01	0.24	0.24	—	1,217	1,217	0.03	0.07	1.34	1,240

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.16	13.8	33.9	0.08	0.17	4.21	4.37	0.17	1.55	1.71	—	11,632	11,632	0.58	1.33	19.2	12,061
2027	1.12	4.86	32.6	0.02	0.02	4.21	4.23	0.02	1.01	1.03	—	6,285	6,285	0.26	0.37	16.2	6,418
2028	8.83	9.67	66.6	0.03	0.04	9.75	9.79	0.04	2.33	2.36	—	13,384	13,384	0.25	0.78	33.3	13,658
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.15	5.28	31.2	0.02	0.03	4.21	4.24	0.02	1.01	1.03	—	6,192	6,192	0.27	0.38	0.46	6,313
2027	1.10	5.17	29.9	0.02	0.02	4.21	4.23	0.02	1.01	1.03	—	6,088	6,088	0.15	0.37	0.42	6,203
2028	9.03	11.6	67.0	0.04	0.07	9.89	9.95	0.06	2.36	2.42	—	13,865	13,865	0.30	0.80	0.87	14,111
2029	8.92	11.1	64.7	0.04	0.07	9.89	9.95	0.06	2.36	2.42	—	13,650	13,650	0.30	0.80	0.79	13,897
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.34	3.65	12.0	0.02	0.04	1.66	1.70	0.04	0.46	0.50	—	3,420	3,420	0.16	0.29	2.84	3,515
2027	0.79	3.70	21.9	0.01	0.01	2.97	2.99	0.01	0.71	0.73	—	4,387	4,387	0.11	0.26	4.99	4,474
2028	5.95	5.74	35.0	0.02	0.02	5.47	5.49	0.02	1.30	1.32	—	7,350	7,350	0.15	0.43	8.09	7,491
2029	0.26	0.33	1.94	< 0.005	< 0.005	0.29	0.29	< 0.005	0.07	0.07	—	406	406	0.01	0.02	0.39	413
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.06	0.67	2.18	< 0.005	0.01	0.30	0.31	0.01	0.08	0.09	—	566	566	0.03	0.05	0.47	582
2027	0.14	0.68	4.00	< 0.005	< 0.005	0.54	0.55	< 0.005	0.13	0.13	—	726	726	0.02	0.04	0.83	741
2028	1.09	1.05	6.40	< 0.005	< 0.005	1.00	1.00	< 0.005	0.24	0.24	—	1,217	1,217	0.02	0.07	1.34	1,240
2029	0.05	0.06	0.35	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	67.2	67.2	< 0.005	< 0.005	0.06	68.4

3. Construction Emissions Details

3.1. Demolition (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	2.27	14.6	0.02	0.05	—	0.05	0.05	—	0.05	—	2,494	2,494	0.10	0.02	—	2,503
Demolition	—	—	—	—	—	1.34	1.34	—	0.20	0.20	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.33	2.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	362	362	0.01	< 0.005	—	363
Demolition	—	—	—	—	—	0.19	0.19	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	60.0	60.0	< 0.005	< 0.005	—	60.2
Demolition	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.05	0.05	0.81	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	169	169	0.01	0.01	0.57	172
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.34	0.53	0.01	0.01	0.30	0.32	0.01	0.08	0.10	—	1,111	1,111	0.06	0.18	2.49	1,168
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.7	23.7	< 0.005	< 0.005	0.04	24.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.20	0.08	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	161	161	0.01	0.03	0.16	169
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.92	3.92	< 0.005	< 0.005	0.01	3.97
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.7	26.7	< 0.005	< 0.005	0.03	28.1

3.3. Grading/Excavation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	3.28	16.7	0.03	0.05	—	0.05	0.05	—	0.05	—	2,798	2,798	0.11	0.02	—	2,808
Dust From Material Movement	—	—	—	—	—	1.71	1.71	—	0.88	0.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.48	2.42	< 0.005	0.01	—	0.01	0.01	—	0.01	—	406	406	0.02	< 0.005	—	408
Dust From Material Movement	—	—	—	—	—	0.25	0.25	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.09	0.44	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	67.3	67.3	< 0.005	< 0.005	—	67.5
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.07	1.13	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	237	237	0.01	0.01	0.80	241
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.12	9.51	3.67	0.05	0.10	2.21	2.31	0.10	0.60	0.71	—	8,065	8,065	0.44	1.29	18.2	8,478
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	33.1	33.1	< 0.005	< 0.005	0.05	33.6

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.45	0.53	0.01	0.02	0.32	0.33	0.02	0.09	0.10	—	1,171	1,171	0.06	0.19	1.13	1,230
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.48	5.48	< 0.005	< 0.005	0.01	5.56
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.27	0.10	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	194	194	0.01	0.03	0.19	204

3.5. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	1.13	11.3	< 0.005	0.00	—	0.00	0.00	—	0.00	—	354	354	0.01	< 0.005	—	354
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	1.13	11.3	< 0.005	0.00	—	0.00	0.00	—	0.00	—	354	354	0.01	< 0.005	—	354
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	0.21	2.14	< 0.005	0.00	—	0.00	0.00	—	0.00	—	67.1	67.1	< 0.005	< 0.005	—	67.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.00	0.04	0.39	< 0.005	0.00	—	0.00	0.00	—	0.00	—	11.1	11.1	< 0.005	< 0.005	—	11.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.04	1.09	18.2	0.00	0.00	3.68	3.68	0.00	0.86	0.86	—	3,811	3,811	0.16	0.13	12.9	3,868
Vendor	0.05	1.87	0.90	0.01	0.02	0.47	0.49	0.01	0.13	0.14	—	1,696	1,696	0.07	0.24	4.58	1,775
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.03	1.22	15.5	0.00	0.00	3.68	3.68	0.00	0.86	0.86	—	3,613	3,613	0.16	0.13	0.33	3,657
Vendor	0.05	1.96	0.93	0.01	0.02	0.47	0.49	0.01	0.13	0.14	—	1,697	1,697	0.07	0.24	0.12	1,771
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.25	3.08	0.00	0.00	0.69	0.69	0.00	0.16	0.16	—	696	696	0.03	0.03	1.06	705
Vendor	0.01	0.37	0.17	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	322	322	0.01	0.05	0.38	336
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.05	0.56	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	115	115	0.01	< 0.005	0.18	117
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	53.3	53.3	< 0.005	0.01	0.06	55.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	1.13	11.3	< 0.005	0.00	—	0.00	0.00	—	0.00	—	354	354	0.01	< 0.005	—	354
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	1.13	11.3	< 0.005	0.00	—	0.00	0.00	—	0.00	—	354	354	0.01	< 0.005	—	354
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	0.81	8.06	< 0.005	0.00	—	0.00	0.00	—	0.00	—	253	253	0.01	< 0.005	—	253
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	0.15	1.47	< 0.005	0.00	—	0.00	0.00	—	0.00	—	41.8	41.8	< 0.005	< 0.005	—	41.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.00	0.97	16.9	0.00	0.00	3.68	3.68	0.00	0.86	0.86	—	3,738	3,738	0.16	0.13	11.6	3,793
Vendor	0.05	1.79	0.85	0.01	0.01	0.47	0.48	0.01	0.13	0.14	—	1,664	1,664	0.07	0.23	4.34	1,738
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.98	1.21	14.3	0.00	0.00	3.68	3.68	0.00	0.86	0.86	—	3,544	3,544	0.05	0.13	0.30	3,585
Vendor	0.05	1.86	0.87	0.01	0.01	0.47	0.48	0.01	0.13	0.14	—	1,664	1,664	0.07	0.23	0.11	1,735
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.70	0.87	10.7	0.00	0.00	2.60	2.60	0.00	0.61	0.61	—	2,569	2,569	0.04	0.10	3.59	2,602
Vendor	0.04	1.34	0.62	0.01	0.01	0.33	0.34	0.01	0.09	0.10	—	1,189	1,189	0.05	0.16	1.34	1,240
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.16	1.96	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	425	425	0.01	0.02	0.59	431
Vendor	0.01	0.24	0.11	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	197	197	0.01	0.03	0.22	205
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	1.13	11.3	< 0.005	0.00	—	0.00	0.00	—	0.00	—	354	354	0.01	< 0.005	—	354
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	1.13	11.3	< 0.005	0.00	—	0.00	0.00	—	0.00	—	354	354	0.01	< 0.005	—	354
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	0.81	8.07	< 0.005	0.00	—	0.00	0.00	—	0.00	—	253	253	0.01	< 0.005	—	254
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	0.15	1.47	< 0.005	0.00	—	0.00	0.00	—	0.00	—	41.9	41.9	< 0.005	< 0.005	—	42.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.96	0.96	15.9	0.00	0.00	3.68	3.68	0.00	0.86	0.86	—	3,671	3,671	0.04	0.13	10.5	3,722
Vendor	0.04	1.71	0.82	0.01	0.01	0.47	0.48	0.01	0.13	0.14	—	1,625	1,625	0.06	0.23	4.11	1,698
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.95	1.09	13.5	0.00	0.00	3.68	3.68	0.00	0.86	0.86	—	3,481	3,481	0.04	0.13	0.27	3,522
Vendor	0.04	1.78	0.83	0.01	0.01	0.47	0.48	0.01	0.13	0.14	—	1,626	1,626	0.06	0.23	0.11	1,696
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.68	0.78	10.1	0.00	0.00	2.60	2.60	0.00	0.61	0.61	—	2,530	2,530	0.03	0.10	3.24	2,562
Vendor	0.03	1.28	0.59	0.01	0.01	0.33	0.34	0.01	0.09	0.10	—	1,164	1,164	0.04	0.16	1.27	1,215
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.14	1.84	0.00	0.00	0.48	0.48	0.00	0.11	0.11	—	419	419	0.01	0.02	0.54	424
Vendor	< 0.005	0.23	0.11	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	193	193	0.01	0.03	0.21	201

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	1.13	11.3	< 0.005	0.00	—	0.00	0.00	—	0.00	—	354	354	0.01	< 0.005	—	354
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	0.03	0.33	< 0.005	0.00	—	0.00	0.00	—	0.00	—	10.4	10.4	< 0.005	< 0.005	—	10.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	0.01	0.06	< 0.005	0.00	—	0.00	0.00	—	0.00	—	1.72	1.72	< 0.005	< 0.005	—	1.72
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.91	0.96	12.6	0.00	0.00	3.68	3.68	0.00	0.86	0.86	—	3,422	3,422	0.04	0.13	0.24	3,463
Vendor	0.04	1.70	0.80	0.01	0.01	0.47	0.48	0.01	0.13	0.14	—	1,583	1,583	0.06	0.23	0.10	1,653
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.39	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	102	102	< 0.005	< 0.005	0.12	103
Vendor	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	46.4	46.4	< 0.005	0.01	0.05	48.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.9	16.9	< 0.005	< 0.005	0.02	17.1
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.69	7.69	< 0.005	< 0.005	0.01	8.04
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Renovation of Existing Building (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.96	14.3	0.01	0.01	—	0.01	0.01	—	0.01	—	792	792	0.03	< 0.005	—	794
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.96	14.3	0.01	0.01	—	0.01	0.01	—	0.01	—	792	792	0.03	< 0.005	—	794
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.71	5.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	285	285	0.01	< 0.005	—	286
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.13	0.94	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	47.2	47.2	< 0.005	< 0.005	—	47.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.96	0.96	15.9	0.00	0.00	3.68	3.68	0.00	0.86	0.86	—	3,671	3,671	0.04	0.13	10.5	3,722
Vendor	0.04	1.71	0.82	0.01	0.01	0.47	0.48	0.01	0.13	0.14	—	1,625	1,625	0.06	0.23	4.11	1,698
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.95	1.09	13.5	0.00	0.00	3.68	3.68	0.00	0.86	0.86	—	3,481	3,481	0.04	0.13	0.27	3,522
Vendor	0.04	1.78	0.83	0.01	0.01	0.47	0.48	0.01	0.13	0.14	—	1,626	1,626	0.06	0.23	0.11	1,696
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.39	5.08	0.00	0.00	1.31	1.31	0.00	0.31	0.31	—	1,272	1,272	0.02	0.05	1.63	1,288
Vendor	0.01	0.65	0.30	< 0.005	< 0.005	0.17	0.17	< 0.005	0.05	0.05	—	585	585	0.02	0.08	0.64	611
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.07	0.93	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	211	211	< 0.005	0.01	0.27	213
Vendor	< 0.005	0.12	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	96.9	96.9	< 0.005	0.01	0.11	101

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Renovation of Existing Building (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.96	14.3	0.01	0.01	—	0.01	0.01	—	0.01	—	791	791	0.03	< 0.005	—	794
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.06	0.42	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23.2	23.2	< 0.005	< 0.005	—	23.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.85	3.85	< 0.005	< 0.005	—	3.86
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.91	0.96	12.6	0.00	0.00	3.68	3.68	0.00	0.86	0.86	—	3,422	3,422	0.04	0.13	0.24	3,463
Vendor	0.04	1.70	0.80	0.01	0.01	0.47	0.48	0.01	0.13	0.14	—	1,583	1,583	0.06	0.23	0.10	1,653
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.39	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	102	102	< 0.005	< 0.005	0.12	103
Vendor	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	46.4	46.4	< 0.005	0.01	0.05	48.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.9	16.9	< 0.005	< 0.005	0.02	17.1
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.69	7.69	< 0.005	< 0.005	0.01	8.04
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.38	5.62	0.01	0.03	—	0.03	0.03	—	0.03	—	812	812	0.03	0.01	—	815
Paving	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.08	0.34	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	49.3	49.3	< 0.005	< 0.005	—	49.4
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.15	8.15	< 0.005	< 0.005	—	8.18
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.04	0.48	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	124	124	< 0.005	< 0.005	0.01	125
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.62	7.62	< 0.005	< 0.005	0.01	7.72
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.26	1.26	< 0.005	< 0.005	< 0.005	1.28
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.19. Paving (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.38	5.62	0.01	0.03	—	0.03	0.03	—	0.03	—	812	812	0.03	0.01	—	814
Paving	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.04	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23.8	23.8	< 0.005	< 0.005	—	23.9
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.94	3.94	< 0.005	< 0.005	—	3.96
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	122	122	< 0.005	< 0.005	0.01	123
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.62	3.62	< 0.005	< 0.005	< 0.005	3.67
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.61
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.21. Architectural Coating (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.86	1.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	6.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.86	1.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	6.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.62	0.92	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	128	128	0.01	< 0.005	—	128
Architectural Coatings	4.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.11	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.1	21.1	< 0.005	< 0.005	—	21.2
Architectural Coatings	0.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.38	0.38	6.35	0.00	0.00	1.47	1.47	0.00	0.34	0.34	—	1,468	1,468	0.01	0.05	4.19	1,489
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.38	0.44	5.40	0.00	0.00	1.47	1.47	0.00	0.34	0.34	—	1,392	1,392	0.02	0.05	0.11	1,409
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.31	4.04	0.00	0.00	1.04	1.04	0.00	0.24	0.24	—	1,012	1,012	0.01	0.04	1.30	1,025
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.06	0.74	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	168	168	< 0.005	0.01	0.21	170
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.23. Architectural Coating (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.86	1.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	6.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.23	5.23	< 0.005	< 0.005	—	5.24
Architectural Coatings	0.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.87	0.87	< 0.005	< 0.005	—	0.87
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.39	5.02	0.00	0.00	1.47	1.47	0.00	0.34	0.34	—	1,369	1,369	0.02	0.05	0.10	1,385
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	40.8	40.8	< 0.005	< 0.005	0.05	41.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.75	6.75	< 0.005	< 0.005	0.01	6.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.25. Utilities/Trenching (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.95	3.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	462	462	0.02	< 0.005	—	463
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.95	3.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	462	462	0.02	< 0.005	—	463
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.31	1.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	154	154	0.01	< 0.005	—	154
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.06	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.4	25.4	< 0.005	< 0.005	—	25.5

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.32	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	67.7	67.7	< 0.005	< 0.005	0.23	68.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.28	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	64.2	64.2	< 0.005	< 0.005	0.01	65.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.7	21.7	< 0.005	< 0.005	0.03	22.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.59	3.59	< 0.005	< 0.005	0.01	3.64
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.27. Utilities/Trenching (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.95	3.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	462	462	0.02	< 0.005	—	463
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.95	3.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	462	462	0.02	< 0.005	—	463
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.68	2.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	330	330	0.01	< 0.005	—	331
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.12	0.42	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	54.6	54.6	< 0.005	< 0.005	—	54.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.30	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	66.4	66.4	< 0.005	< 0.005	0.21	67.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.02	0.02	0.25	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	63.0	63.0	< 0.005	< 0.005	0.01	63.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.02	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	45.7	45.7	< 0.005	< 0.005	0.06	46.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.56	7.56	< 0.005	< 0.005	0.01	7.66
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.29. Utilities/Trenching (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.95	3.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	462	462	0.02	< 0.005	—	463
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.11	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	55.1	55.1	< 0.005	< 0.005	—	55.3

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.12	9.12	< 0.005	< 0.005	—	9.16
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.24	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	61.9	61.9	< 0.005	< 0.005	< 0.005	62.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.49	7.49	< 0.005	< 0.005	0.01	7.59
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.24	1.24	< 0.005	< 0.005	< 0.005	1.26
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	5/1/2026	7/14/2026	5.00	53.0	—
Grading/Excavation	Grading	7/15/2026	9/25/2026	5.00	53.0	—
Building Construction	Building Construction	09/26/2026	1/15/2029	5.00	601	—
Renovation of Existing Building	Building Construction	07/01/2028	1/15/2029	5.00	141	—
Paving	Paving	12/1/2028	1/15/2029	5.00	32.0	—
Architectural Coating	Architectural Coating	01/01/2028	1/15/2029	5.00	271	—
Utilities/Trenching	Trenching	7/15/2026	3/1/2028	5.00	426	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	8.00	84.0	0.37
Grading/Excavation	Bore/Drill Rigs	Diesel	Tier 4 Final	1.00	8.00	83.0	0.50
Grading/Excavation	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading/Excavation	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40

Grading/Excavation	Sweepers/Scrubbers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.46
Grading/Excavation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Building Construction	Cranes	Electric	Average	1.00	8.00	367	0.29
Building Construction	Forklifts	CNG	Average	1.00	8.00	70.0	0.30
Building Construction	Generator Sets	Diesel	Tier 4 Final	1.00	8.00	14.0	0.74
Building Construction	Welders	Electric	Average	3.00	8.00	46.0	0.45
Renovation of Existing Building	Aerial Lifts	Diesel	Tier 4 Final	1.00	8.00	46.0	0.31
Renovation of Existing Building	Forklifts	CNG	Average	1.00	8.00	70.0	0.30
Renovation of Existing Building	Generator Sets	Diesel	Tier 4 Final	1.00	8.00	14.0	0.74
Renovation of Existing Building	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
Paving	Pavers	Diesel	Tier 4 Final	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	8.00	37.0	0.48
Utilities/Trenching	Sweepers/Scrubbers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.46
Utilities/Trenching	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	12.5	18.5	LDA,LDT1,LDT2

Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	16.3	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Grading/Excavation	—	—	—	—
Grading/Excavation	Worker	17.5	18.5	LDA,LDT1,LDT2
Grading/Excavation	Vendor	—	10.2	HHDT,MHDT
Grading/Excavation	Hauling	103	23.0	HHDT
Grading/Excavation	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	281	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	54.4	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Renovation of Existing Building	—	—	—	—
Renovation of Existing Building	Worker	281	18.5	LDA,LDT1,LDT2
Renovation of Existing Building	Vendor	54.4	10.2	HHDT,MHDT
Renovation of Existing Building	Hauling	0.00	20.0	HHDT
Renovation of Existing Building	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	10.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	113	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

Utilities/Trenching	—	—	—	—
Utilities/Trenching	Worker	5.00	18.5	LDA,LDT1,LDT2
Utilities/Trenching	Vendor	—	10.2	HHDT,MHDT
Utilities/Trenching	Hauling	0.00	20.0	HHDT
Utilities/Trenching	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	488,341	162,780	33,419	10,874	2,143

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	3,462	—
Grading/Excavation	—	43,849	26.5	0.00	—
Paving	0.00	0.00	0.00	0.00	0.82

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
High Turnover (Sit Down Restaurant)	0.00	0%
Enclosed Parking with Elevator	0.61	100%
Other Non-Asphalt Surfaces	0.21	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	1,005	690	0.05	0.01
2027	1,005	690	0.05	0.01
2028	1,005	690	0.05	0.01
2029	1,005	690	0.05	0.01

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.58	annual days of extreme heat
Extreme Precipitation	6.70	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A

Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	51.9
AQ-PM	86.2
AQ-DPM	91.7
Drinking Water	92.5
Lead Risk Housing	40.9
Pesticides	0.00
Toxic Releases	76.9
Traffic	55.4
Effect Indicators	—
CleanUp Sites	70.6
Groundwater	16.8
Haz Waste Facilities/Generators	78.1
Impaired Water Bodies	0.00
Solid Waste	2.52
Sensitive Population	—
Asthma	34.9
Cardio-vascular	35.3
Low Birth Weights	57.6
Socioeconomic Factor Indicators	—
Education	56.5
Housing	85.3
Linguistic	97.3
Poverty	76.2
Unemployment	82.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	29.71897857
Employed	34.62081355
Median HI	20.71089439
Education	—
Bachelor's or higher	66.94469396
High school enrollment	100
Preschool enrollment	78.82715257
Transportation	—
Auto Access	14.11523162
Active commuting	91.1587322
Social	—
2-parent households	84.85820608
Voting	8.828435776
Neighborhood	—
Alcohol availability	29.53933017
Park access	48.80020531
Retail density	96.72783267
Supermarket access	94.25125112
Tree canopy	46.16963942
Housing	—
Homeownership	2.617733864
Housing habitability	14.51302451
Low-inc homeowner severe housing cost burden	64.24996792
Low-inc renter severe housing cost burden	47.70948287

Uncrowded housing	16.14269216
Health Outcomes	—
Insured adults	5.235467727
Arthritis	95.9
Asthma ER Admissions	78.8
High Blood Pressure	88.4
Cancer (excluding skin)	89.7
Asthma	98.2
Coronary Heart Disease	94.7
Chronic Obstructive Pulmonary Disease	95.5
Diagnosed Diabetes	67.4
Life Expectancy at Birth	79.5
Cognitively Disabled	98.0
Physically Disabled	60.6
Heart Attack ER Admissions	97.8
Mental Health Not Good	78.4
Chronic Kidney Disease	93.4
Obesity	94.9
Pedestrian Injuries	84.9
Physical Health Not Good	77.4
Stroke	91.3
Health Risk Behaviors	—
Binge Drinking	93.5
Current Smoker	74.7
No Leisure Time for Physical Activity	52.2
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0

Children	94.5
Elderly	78.6
English Speaking	3.8
Foreign-born	98.8
Outdoor Workers	67.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	3.6
Traffic Density	80.7
Traffic Access	87.4
Other Indices	—
Hardship	56.7
Other Decision Support	—
2016 Voting	6.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	36.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Operations: Vehicle Data	Weekday trip rates calculated based on TIA total daily trips for the site as a whole. All trips accounted for under Genera Office Building. Saturday and Sunday trip rate adjusted based on the rate at which weekday trip rate was adjusted from default.
Land Use	Project Description
Construction: Construction Phases	Project Description
Construction: Off-Road Equipment	Project-Specific Assumptions
Construction: Trips and VMT	Demolition Disposal up to 17miles. Grading disposal site 22.8 miles.
Operations: Hearths	No fireplaces or hearths proposed
Operations: Energy Use	All-Electric Residential development

Appendix G-2
Operational Air Quality Assessment

Kimley»Horn

MEMORANDUM

To:	City of Los Angeles, Planning Department
	Attn: Michelle Carter, City Planner
From:	Olivia Chan
	Kimley-Horn and Associates, Inc.
Date:	October 29, 2024
Subject:	550 Shatto Place Operational Air Quality Assessment to Demonstrate Consistency with the Citywide Housing Element 2021-2029 and Safety Element Environmental Impact Report (EIR) Mitigation Measure 4.2-2(b) Operational Emissions Reduction

1.0 INTRODUCTION

On November 24, 2021, the City Council certified the Citywide Housing Element 2021-2029 and Safety Element Updates Final EIR, SCH No. 2021010130, EIR No. ENV-2020-672-EIR (Program EIR). Subsequent projects may use the Program EIR as their environmental clearance if a project can be shown to be within the scope of the program analyzed in the Program EIR, and its environmental effects are within the scope of environmental impacts assessed in the Program EIR.

Per the City of Los Angeles Housing Element Streamlining Checklist Form and Instructions, a mixed-use project such as the 550 Shatto Place Project must demonstrate consistency or compliance with the Mitigation Measures adopted as part of the Program EIR.

Per the Program EIR, Mitigation Measure 4.2-2(b) (Operations Emissions Reduction), may apply if a project meets the following identified trigger stated in the mitigation measure itself.

4.2-2(b) Operational Emissions Reduction Trigger

- *462 single-family homes or*
- *612 multi-family residential; or*
- *the equivalent of one of the above*

For mixed-use projects, an air quality analysis is required to provide the equivalent of the first two bullet points for the mixed-use project

The following Operational Air Quality Assessment memorandum evaluates the potential operation-related criteria pollutant emissions associated with the Project and determines that the Project is below the operational reduction trigger associated with Mitigation Measure 4.2-2(b) (Operations Emissions Reduction).

1.1 Project Location

The Project Site is bounded by Shatto Place on the west, West 6th Street on the south, West 5th Street to the north, and South Westmoreland to the east. The Project Site is served by a network of regional transportation facilities providing connectivity to the larger metropolitan area. The Project Site is 0.95 miles south of U.S. Route 101 (US 101), 1.75 miles west of State Route 110 (SR-110), and 1.89 miles north of Interstate 10 (I-10). The Project Site is close to many major bus transit lines, including Metro and DASH services (Metro Lines 18, 20, 204, 720, and 754 and the Wilshire Center/Koreatown DASH line) and is approximately 500 feet from the Wilshire/Vermont Metro Station.

1.2 Project Description

The Project Site is located at 514-550 Shatto Place (APN 5077-004-033 and 5077-004-025). The Project Site is currently occupied by the New Covenant Academy, a private school serving grades K-12 on the southern portion of the Project Site, and an approximately 27,843 square-foot four-story office building with subterranean parking on the northern portion of the Project Site. The New Covenant Academy includes a one-story (plus mezzanine) 12,800 square-foot church building which was constructed in 1936 for the First English Evangelical Lutheran Church. The "L-shaped" building is designed in the Spanish Colonial Revival architectural style and is currently used by the New Covenant Academy as a basketball court/gym, a kitchen and food hall/theatre stage and classrooms.

The Project would involve the demolition of the four-story office building and would remove some of the existing school structures, including a 4,105-square-foot one-story school classroom building, a 2,412-square-foot, two-story classroom building, and restroom and storage facilities (1,760 square feet), canopies, and surface parking. The Project would include a new eight-story building containing 318 residential units and 234 parking spaces located on the northern portion of the Project Site. Of the 318 dwelling units, 35 units (11 percent) would be restricted as affordable housing for Very Low-Income Households. On the southern portion of the Project Site, the existing former 1936 church building would be repurposed with 21,482 square feet of commercial uses. The Project would provide 24,431 square feet of credited open space.

2.0 POTENTIAL IMPACTS AND MITIGATION

2.1 Regional Operational Emissions

The Project's operational emissions would be associated with area sources (e.g., landscape maintenance equipment, architectural coatings, etc.), energy sources, and mobile sources (i.e., motor vehicle use). Primary sources of operational criteria pollutants are from motor vehicle use and area sources. Long-term operational emissions attributable to the Project are summarized in Table 1: Operational Criteria Pollutant Emissions for the Project. The operational emissions sources are described below.

- *Area Source Emissions*. Area source emissions would be generated due to on-site equipment, architectural coating, and landscape maintenance equipment.
- *Energy Source Emissions*. Energy source emissions would be generated due to electricity usage associated with the Project. Primary energy uses include space heating and cooling, water heating, ventilation, lighting, appliances, and electronics. The residential component of the Project would be all-electric and would not utilize natural gas.
- *Mobile Source Emissions*. Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Project-generated vehicle emissions are based on the trip generation

estimates and have been incorporated into CalEEMod, as recommended by the SCAQMD. The Project would generate 2,310 total daily vehicle trips.[1]

- *Existing Emissions to be Removed*. Emissions associated with existing office and school uses to be removed from the Project Site have been estimated using CalEEMod and accounted for to calculate net increases in emissions. Default CalEEMod emissions factors were assumed for area, energy, and mobile source emissions. Existing uses generate 342 total daily vehicle trips.[2]
- *Screening*. To determine the largest individual project sizes that would typically be anticipated to result in emissions that do not exceed South Coast Air Quality Management District (SCAQMD) thresholds, additional modeling was performed and included in the Program EIR. Section 4.2, Air Quality of the Program EIR determined that the operation of a 462 single-family unit project or a 612 multi-family unit project (multi-family or mixed use) would typically result in emissions that remain less than SCAQMD thresholds.

  To determine if the Project would exceed the emissions associated with a 462-unit single-family project or a 612-unit multi-family project, emissions have been estimated utilizing default CalEEMod emissions factors (see Attachment B for model outputs). Emissions associated with both a 462-unit single family project and 612-unit multi-family project were estimated. See Attachment B for model outputs for both test scenarios.

Table 1: Operational Criteria Pollutant Emissions for the Project

Source	Emissions (pounds per day)[1]					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Area	7.25	0.22	23.51	<0.01	0.02	0.01
Energy	0.03	0.55	0.46	<0.01	0.04	0.04
Mobile	6.63	4.99	55.36	0.14	13.61	3.51
Proposed Project Total	**13.91**	**5.75**	**79.33**	**0.14**	**13.667**	**3.57**
Existing Emissions to be Removed	*-2.48*	*-1.10*	*-10.58*	*-0.02*	*-1.60*	*-0.43*
Net Project Emissions	**11.43**	**4.65**	**68.75**	**0.12**	**12.07**	**3.14**
SCAQMD Threshold	55	55	550	150	150	55
SCAQMD Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Potential Screening Project Threshold within Program EIR (612 MFR)	26.32	8.92	117.72	0.22	20.52	5.39
Screening Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Potential Screening Project Threshold within Program EIR (462 SFR)	**36.2**	**16.0**	**138**	**0.32**	**27.5**	**7.47**
Screening Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

MFR=Multi-Family Residential, SFR=Single Family Residential, ROG=reactive organic gases, NOx= nitrogen oxides, CO=carbon monoxide, SO_2=sulfur dioxide, PM_{10}=particulate matter with an aerodynamic diameter of 10 micrometers, $PM_{2.5}$ =particulate matter with an aerodynamic diameter of 2.5 micrometers or less

[1] Worst-case seasonal maximum daily emissions are reported.

Source: CalEEMod version 2022. Refer to Attachment A for model outputs.

1 Gibson Transportation Consulting, Inc., Supplemental Transportation Assessment for the Refined 550 S. Shatto Place Project, Los Angeles, California, October 2024

2 Gibson Transportation Consulting, Inc., Supplemental Transportation Assessment for the Refined 550 S. Shatto Place Project, Los Angeles, California, October 2024

As shown in Table 1, and discussed above, net operational (i.e., area, energy, mobile) emissions would not exceed SCAQMD thresholds or exceed the emissions of a 612-unit multi-family screening project for any criteria pollutant. Therefore, the Project would not violate any air quality standards or contribute substantially to an existing or projected air quality violation. As a result, approval of the Project would not result in any significant project-level effects relating to operational air quality impacts.

2.2 Conclusion

As demonstrated above, the Project would not result in any significant effects related to operational air pollutant concentrations and the Project would not exceed the emissions of a 612-unit multi-family or a 462-unit single family screening project. Therefore, Pursuant to CEQA Guidelines Section 15168, the Project would be within the scope of the environmental impacts assessed in the Program EIR. No further analysis is required.

ATTACHMENT A

CalEEMod Outputs – Project

Shatto Place - Existing Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Shatto Place - Existing
Operational Year	2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	0.50
Precipitation (days)	16.8
Location	514 Shatto Pl, Los Angeles, CA 90020, USA
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4008
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Office Building	27.8	1000sqft	0.64	27,843	0.00	—	—	—
Elementary School	170	Student	0.33	14,213	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.48	1.03	10.6	0.02	0.03	1.56	1.60	0.03	0.40	0.43	40.9	3,189	3,230	4.32	0.12	7.24	3,380
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.17	1.09	8.22	0.02	0.03	1.56	1.59	0.03	0.40	0.43	40.9	3,106	3,147	4.33	0.12	0.31	3,291
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.36	1.10	9.65	0.02	0.03	1.55	1.58	0.03	0.39	0.42	40.9	3,131	3,172	4.33	0.12	3.20	3,319
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.43	0.20	1.76	< 0.005	0.01	0.28	0.29	0.01	0.07	0.08	6.78	518	525	0.72	0.02	0.53	550

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.17	0.78	8.56	0.02	0.01	1.56	1.58	0.01	0.40	0.41	—	1,824	1,824	0.10	0.08	7.12	1,857

Area	1.31	0.02	1.83	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.52	7.52	< 0.005	< 0.005	—	7.55
Energy	0.01	0.23	0.19	< 0.005	0.02	—	0.02	0.02	—	0.02	—	1,289	1,289	0.10	0.01	—	1,294
Water	—	—	—	—	—	—	—	—	—	—	10.3	69.0	79.3	1.06	0.03	—	113
Waste	—	—	—	—	—	—	—	—	—	—	30.7	0.00	30.7	3.07	0.00	—	107
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Total	2.48	1.03	10.6	0.02	0.03	1.56	1.60	0.03	0.40	0.43	40.9	3,189	3,230	4.32	0.12	7.24	3,380
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.15	0.86	8.03	0.02	0.01	1.56	1.58	0.01	0.40	0.41	—	1,748	1,748	0.11	0.08	0.18	1,775
Area	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.01	0.23	0.19	< 0.005	0.02	—	0.02	0.02	—	0.02	—	1,289	1,289	0.10	0.01	—	1,294
Water	—	—	—	—	—	—	—	—	—	—	10.3	69.0	79.3	1.06	0.03	—	113
Waste	—	—	—	—	—	—	—	—	—	—	30.7	0.00	30.7	3.07	0.00	—	107
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Total	2.17	1.09	8.22	0.02	0.03	1.56	1.59	0.03	0.40	0.43	40.9	3,106	3,147	4.33	0.12	0.31	3,291
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.14	0.87	8.21	0.02	0.01	1.55	1.56	0.01	0.39	0.40	—	1,768	1,768	0.11	0.08	3.08	1,799
Area	1.21	0.01	1.25	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.15	5.15	< 0.005	< 0.005	—	5.17
Energy	0.01	0.23	0.19	< 0.005	0.02	—	0.02	0.02	—	0.02	—	1,289	1,289	0.10	0.01	—	1,294
Water	—	—	—	—	—	—	—	—	—	—	10.3	69.0	79.3	1.06	0.03	—	113
Waste	—	—	—	—	—	—	—	—	—	—	30.7	0.00	30.7	3.07	0.00	—	107
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Total	2.36	1.10	9.65	0.02	0.03	1.55	1.58	0.03	0.39	0.42	40.9	3,131	3,172	4.33	0.12	3.20	3,319
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.21	0.16	1.50	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	—	293	293	0.02	0.01	0.51	298
Area	0.22	< 0.005	0.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.85	0.85	< 0.005	< 0.005	—	0.86
Energy	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	213	213	0.02	< 0.005	—	214

Water	—	—	—	—	—	—	—	—	—	—	1.70	11.4	13.1	0.18	< 0.005	—	18.8
Waste	—	—	—	—	—	—	—	—	—	—	5.08	0.00	5.08	0.51	0.00	—	17.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	0.43	0.20	1.76	< 0.005	0.01	0.28	0.29	0.01	0.07	0.08	6.78	518	525	0.72	0.02	0.53	550

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	1.17	0.78	8.56	0.02	0.01	1.56	1.58	0.01	0.40	0.41	—	1,824	1,824	0.10	0.08	7.12	1,857
Elementary School	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.17	0.78	8.56	0.02	0.01	1.56	1.58	0.01	0.40	0.41	—	1,824	1,824	0.10	0.08	7.12	1,857
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	1.15	0.86	8.03	0.02	0.01	1.56	1.58	0.01	0.40	0.41	—	1,748	1,748	0.11	0.08	0.18	1,775
Elementary School	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.15	0.86	8.03	0.02	0.01	1.56	1.58	0.01	0.40	0.41	—	1,748	1,748	0.11	0.08	0.18	1,775

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.21	0.16	1.50	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	—	293	293	0.02	0.01	0.51	298
Elementary School	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.21	0.16	1.50	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	—	293	293	0.02	0.01	0.51	298

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	839	839	0.06	0.01	—	843
Elementary School	—	—	—	—	—	—	—	—	—	—	—	180	180	0.01	< 0.005	—	181
Total	—	—	—	—	—	—	—	—	—	—	—	1,019	1,019	0.07	0.01	—	1,023
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	839	839	0.06	0.01	—	843
Elementary School	—	—	—	—	—	—	—	—	—	—	—	180	180	0.01	< 0.005	—	181
Total	—	—	—	—	—	—	—	—	—	—	—	1,019	1,019	0.07	0.01	—	1,023

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	139	139	0.01	< 0.005	—	140
Elementary School	—	—	—	—	—	—	—	—	—	—	—	29.8	29.8	< 0.005	< 0.005	—	29.9
Total	—	—	—	—	—	—	—	—	—	—	—	169	169	0.01	< 0.005	—	169

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.01	0.15	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	179	179	0.02	< 0.005	—	180
Elementary School	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	90.8	90.8	0.01	< 0.005	—	91.0
Total	0.01	0.23	0.19	< 0.005	0.02	—	0.02	0.02	—	0.02	—	270	270	0.02	< 0.005	—	271
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.01	0.15	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	179	179	0.02	< 0.005	—	180
Elementary School	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	90.8	90.8	0.01	< 0.005	—	91.0
Total	0.01	0.23	0.19	< 0.005	0.02	—	0.02	0.02	—	0.02	—	270	270	0.02	< 0.005	—	271
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Office Building	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.7	29.7	< 0.005	< 0.005	—	29.8
Elementary School	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.0	15.0	< 0.005	< 0.005	—	15.1
Total	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	44.7	44.7	< 0.005	< 0.005	—	44.8

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.30	0.02	1.83	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.52	7.52	< 0.005	< 0.005	—	7.55
Total	1.31	0.02	1.83	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.52	7.52	< 0.005	< 0.005	—	7.55
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	0.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.04	< 0.005	0.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.85	0.85	< 0.005	< 0.005	—	0.86
Total	0.22	< 0.005	0.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.85	0.85	< 0.005	< 0.005	—	0.86

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	9.48	63.7	73.2	0.98	0.02	—	105
Elementary School	—	—	—	—	—	—	—	—	—	—	0.79	5.31	6.10	0.08	< 0.005	—	8.72
Total	—	—	—	—	—	—	—	—	—	—	10.3	69.0	79.3	1.06	0.03	—	113

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	9.48	63.7	73.2	0.98	0.02	—	105
Elementary School	—	—	—	—	—	—	—	—	—	—	0.79	5.31	6.10	0.08	< 0.005	—	8.72
Total	—	—	—	—	—	—	—	—	—	—	10.3	69.0	79.3	1.06	0.03	—	113
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	1.57	10.5	12.1	0.16	< 0.005	—	17.3
Elementary School	—	—	—	—	—	—	—	—	—	—	0.13	0.88	1.01	0.01	< 0.005	—	1.44
Total	—	—	—	—	—	—	—	—	—	—	1.70	11.4	13.1	0.18	< 0.005	—	18.8

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	14.0	0.00	14.0	1.39	0.00	—	48.8
Elementary School	—	—	—	—	—	—	—	—	—	—	16.7	0.00	16.7	1.67	0.00	—	58.5
Total	—	—	—	—	—	—	—	—	—	—	30.7	0.00	30.7	3.07	0.00	—	107

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	14.0	0.00	14.0	1.39	0.00	—	48.8
Element ary School	—	—	—	—	—	—	—	—	—	—	16.7	0.00	16.7	1.67	0.00	—	58.5
Total	—	—	—	—	—	—	—	—	—	—	30.7	0.00	30.7	3.07	0.00	—	107
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	2.31	0.00	2.31	0.23	0.00	—	8.08
Element ary School	—	—	—	—	—	—	—	—	—	—	2.77	0.00	2.77	0.28	0.00	—	9.69
Total	—	—	—	—	—	—	—	—	—	—	5.08	0.00	5.08	0.51	0.00	—	17.8

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Element ary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Office Building	342	342	342	124,830	2,205	2,205	2,205	804,901
Elementary School	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	63,084	21,028	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Office Building	443,504	690	0.0489	0.0069	559,418
Elementary School	95,033	690	0.0489	0.0069	283,269

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Office Building	4,948,641	0.00
Elementary School	412,121	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)

General Office Building	25.9	—
Elementary School	31.0	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Elementary School	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Elementary School	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Elementary School	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Elementary School	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.58	annual days of extreme heat
Extreme Precipitation	6.70	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	51.9
AQ-PM	86.2

AQ-DPM	91.7
Drinking Water	92.5
Lead Risk Housing	40.9
Pesticides	0.00
Toxic Releases	76.9
Traffic	55.4
Effect Indicators	—
CleanUp Sites	70.6
Groundwater	16.8
Haz Waste Facilities/Generators	78.1
Impaired Water Bodies	0.00
Solid Waste	2.52
Sensitive Population	—
Asthma	34.9
Cardio-vascular	35.3
Low Birth Weights	57.6
Socioeconomic Factor Indicators	—
Education	56.5
Housing	85.3
Linguistic	97.3
Poverty	76.2
Unemployment	82.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	29.71897857

Employed	34.62081355
Median HI	20.71089439
Education	—
Bachelor's or higher	66.94469396
High school enrollment	100
Preschool enrollment	78.82715257
Transportation	—
Auto Access	14.11523162
Active commuting	91.1587322
Social	—
2-parent households	84.85820608
Voting	8.828435776
Neighborhood	—
Alcohol availability	29.53933017
Park access	48.80020531
Retail density	96.72783267
Supermarket access	94.25125112
Tree canopy	46.16963942
Housing	—
Homeownership	2.617733864
Housing habitability	14.51302451
Low-inc homeowner severe housing cost burden	64.24996792
Low-inc renter severe housing cost burden	47.70948287
Uncrowded housing	16.14269216
Health Outcomes	—
Insured adults	5.235467727
Arthritis	95.9
Asthma ER Admissions	78.8

High Blood Pressure	88.4
Cancer (excluding skin)	89.7
Asthma	98.2
Coronary Heart Disease	94.7
Chronic Obstructive Pulmonary Disease	95.5
Diagnosed Diabetes	67.4
Life Expectancy at Birth	79.5
Cognitively Disabled	98.0
Physically Disabled	60.6
Heart Attack ER Admissions	97.8
Mental Health Not Good	78.4
Chronic Kidney Disease	93.4
Obesity	94.9
Pedestrian Injuries	84.9
Physical Health Not Good	77.4
Stroke	91.3
Health Risk Behaviors	—
Binge Drinking	93.5
Current Smoker	74.7
No Leisure Time for Physical Activity	52.2
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	94.5
Elderly	78.6
English Speaking	3.8
Foreign-born	98.8
Outdoor Workers	67.0

Climate Change Adaptive Capacity	—
Impervious Surface Cover	3.6
Traffic Density	80.7
Traffic Access	87.4
Other Indices	—
Hardship	56.7
Other Decision Support	—
2016 Voting	6.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	36.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification

Operations: Vehicle Data	Weekday trip rates calculated based on TIA total daily trips for the site as a whole. All trips accounted for under General Office Building.

Shatto Place - Proposed Operations Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Shatto Place - Proposed Operations
Operational Year	2029
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	0.50
Precipitation (days)	16.8
Location	514 Shatto Pl, Los Angeles, CA 90020, USA
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4008
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	318	Dwelling Unit	0.31	184,763	3,126	0.00	941	—

High Turnover (Sit Down Restaurant)	21.5	1000sqft	0.24	21,482	0.00	0.00	—	—
Enclosed Parking with Elevator	234	Space	0.61	103,087	0.00	—	—	—
Other Non-Asphalt Surfaces	0.37	Acre	0.37	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.9	5.33	79.3	0.14	0.14	13.5	13.7	0.13	3.44	3.57	300	19,243	19,542	31.1	0.68	70.4	20,593
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	11.4	5.54	51.6	0.14	0.12	13.5	13.7	0.12	3.44	3.55	300	18,584	18,884	31.1	0.71	35.8	19,908
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.0	5.73	69.0	0.14	0.13	13.4	13.5	0.13	3.40	3.53	300	18,791	19,091	31.1	0.71	50.2	20,130
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.38	1.05	12.6	0.03	0.02	2.44	2.47	0.02	0.62	0.64	49.6	3,111	3,161	5.15	0.12	8.32	3,333

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	6.63	4.57	55.4	0.14	0.08	13.5	13.6	0.08	3.44	3.51	—	14,262	14,262	0.66	0.55	35.5	14,479
Area	7.25	0.22	23.5	< 0.005	0.02	—	0.02	0.01	—	0.01	0.00	70.5	70.5	< 0.005	< 0.005	—	70.8
Energy	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	4,673	4,673	0.34	0.04	—	4,694
Water	—	—	—	—	—	—	—	—	—	—	35.2	237	272	3.63	0.09	—	389
Waste	—	—	—	—	—	—	—	—	—	—	264	0.00	264	26.4	0.00	—	925
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34.9	34.9
Total	13.9	5.33	79.3	0.14	0.14	13.5	13.7	0.13	3.44	3.57	300	19,243	19,542	31.1	0.68	70.4	20,593
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	6.56	4.99	51.2	0.13	0.08	13.5	13.6	0.08	3.44	3.51	—	13,674	13,674	0.69	0.58	0.92	13,865
Area	4.79	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	4,673	4,673	0.34	0.04	—	4,694
Water	—	—	—	—	—	—	—	—	—	—	35.2	237	272	3.63	0.09	—	389
Waste	—	—	—	—	—	—	—	—	—	—	264	0.00	264	26.4	0.00	—	925
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34.9	34.9
Total	11.4	5.54	51.6	0.14	0.12	13.5	13.7	0.12	3.44	3.55	300	18,584	18,884	31.1	0.71	35.8	19,908
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	6.51	5.03	52.5	0.14	0.08	13.4	13.5	0.08	3.40	3.48	—	13,832	13,832	0.68	0.58	15.3	14,038
Area	6.48	0.15	16.1	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	48.3	48.3	< 0.005	< 0.005	—	48.5
Energy	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	4,673	4,673	0.34	0.04	—	4,694
Water	—	—	—	—	—	—	—	—	—	—	35.2	237	272	3.63	0.09	—	389
Waste	—	—	—	—	—	—	—	—	—	—	264	0.00	264	26.4	0.00	—	925
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34.9	34.9

Total	13.0	5.73	69.0	0.14	0.13	13.4	13.5	0.13	3.40	3.53	300	18,791	19,091	31.1	0.71	50.2	20,130
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.19	0.92	9.57	0.02	0.01	2.44	2.46	0.01	0.62	0.63	—	2,290	2,290	0.11	0.10	2.54	2,324
Area	1.18	0.03	2.94	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	8.00	8.00	< 0.005	< 0.005	—	8.02
Energy	0.01	0.10	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	774	774	0.06	0.01	—	777
Water	—	—	—	—	—	—	—	—	—	—	5.83	39.3	45.1	0.60	0.01	—	64.4
Waste	—	—	—	—	—	—	—	—	—	—	43.8	0.00	43.8	4.38	0.00	—	153
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.78	5.78
Total	2.38	1.05	12.6	0.03	0.02	2.44	2.47	0.02	0.62	0.64	49.6	3,111	3,161	5.15	0.12	8.32	3,333

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	5.68	3.99	48.5	0.12	0.07	11.9	12.0	0.07	3.03	3.10	—	12,579	12,579	0.57	0.48	31.3	12,769
High Turnover (Sit Down Restaurant)	0.95	0.58	6.85	0.02	0.01	1.58	1.59	0.01	0.40	0.41	—	1,683	1,683	0.09	0.07	4.16	1,710
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	6.63	4.57	55.4	0.14	0.08	13.5	13.6	0.08	3.44	3.51	—	14,262	14,262	0.66	0.55	35.5	14,479
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	5.62	4.36	44.7	0.12	0.07	11.9	12.0	0.07	3.03	3.10	—	12,060	12,060	0.60	0.51	0.81	12,227
High Turnover (Sit Down Restaurant)	0.94	0.64	6.43	0.02	0.01	1.58	1.59	0.01	0.40	0.41	—	1,614	1,614	0.09	0.07	0.11	1,638
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	6.56	4.99	51.2	0.13	0.08	13.5	13.6	0.08	3.44	3.51	—	13,674	13,674	0.69	0.58	0.92	13,865
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	1.02	0.80	8.37	0.02	0.01	2.16	2.17	0.01	0.55	0.56	—	2,020	2,020	0.10	0.08	2.24	2,050
High Turnover (Sit Down Restaurant)	0.17	0.12	1.20	< 0.005	< 0.005	0.29	0.29	< 0.005	0.07	0.07	—	270	270	0.01	0.01	0.30	275
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Total	1.19	0.92	9.57	0.02	0.01	2.44	2.46	0.01	0.62	0.63	—	2,290	2,290	0.11	0.10	2.54	2,324

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	1,978	1,978	0.14	0.02	—	1,987
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	1,323	1,323	0.09	0.01	—	1,330
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	720	720	0.05	0.01	—	723
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4,021	4,021	0.28	0.04	—	4,040
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	1,978	1,978	0.14	0.02	—	1,987
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	1,323	1,323	0.09	0.01	—	1,330

Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	720	720	0.05	0.01	—	723
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4,021	4,021	0.28	0.04	—	4,040
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	327	327	0.02	< 0.005	—	329
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	219	219	0.02	< 0.005	—	220
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	119	119	0.01	< 0.005	—	120
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	666	666	0.05	0.01	—	669

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

High Turnover (Sit Down Restaurant)	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	652	652	0.06	< 0.005	—	654
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	652	652	0.06	< 0.005	—	654
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
High Turnover (Sit Down Restaurant)	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	652	652	0.06	< 0.005	—	654
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	652	652	0.06	< 0.005	—	654
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

High Turnover (Sit Down Restaurant)	0.01	0.10	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	108	108	0.01	< 0.005	—	108
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.10	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	108	108	0.01	< 0.005	—	108

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	4.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.46	0.22	23.5	< 0.005	0.02	—	0.02	0.01	—	0.01	—	70.5	70.5	< 0.005	< 0.005	—	70.8
Total	7.25	0.22	23.5	< 0.005	0.02	—	0.02	0.01	—	0.01	0.00	70.5	70.5	< 0.005	< 0.005	—	70.8

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	4.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	4.79	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.31	0.03	2.94	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.00	8.00	< 0.005	< 0.005	—	8.02
Total	1.18	0.03	2.94	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	8.00	8.00	< 0.005	< 0.005	—	8.02

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartme Mid Rise	—	—	—	—	—	—	—	—	—	—	22.7	153	176	2.34	0.06	—	251
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	12.5	84.0	96.5	1.29	0.03	—	138
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	35.2	237	272	3.63	0.09	—	389
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartme nts Mid Rise	—	—	—	—	—	—	—	—	—	—	22.7	153	176	2.34	0.06	—	251
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	12.5	84.0	96.5	1.29	0.03	—	138
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	35.2	237	272	3.63	0.09	—	389
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartme nts Mid Rise	—	—	—	—	—	—	—	—	—	—	3.76	25.4	29.1	0.39	0.01	—	41.6

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	2.07	13.9	16.0	0.21	0.01	—	22.8
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	5.83	39.3	45.1	0.60	0.01	—	64.4

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	127	0.00	127	12.7	0.00	—	443
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	138	0.00	138	13.8	0.00	—	482
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	264	0.00	264	26.4	0.00	—	925
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	127	0.00	127	12.7	0.00	—	443
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	138	0.00	138	13.8	0.00	—	482
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	264	0.00	264	26.4	0.00	—	925
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	21.0	0.00	21.0	2.10	0.00	—	73.4
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	22.8	0.00	22.8	2.28	0.00	—	79.8
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	43.8	0.00	43.8	4.38	0.00	—	153

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.32	1.32
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.6	33.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34.9	34.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.32	1.32
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.6	33.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34.9	34.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.56	5.56

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.78	5.78

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	1,963	1,963	1,963	716,677	16,843	16,843	16,843	6,147,720
High Turnover (Sit Down Restaurant)	346	346	346	126,472	2,234	2,234	2,234	815,491
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	318
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0

Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
374145.075	124,715	33,419	10,874	2,561

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	1,045,592	690	0.0489	0.0069	0.00
High Turnover (Sit Down Restaurant)	699,671	690	0.0489	0.0069	2,034,982
Enclosed Parking with Elevator	380,539	690	0.0489	0.0069	0.00
Other Non-Asphalt Surfaces	0.00	690	0.0489	0.0069	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	11,853,068	53,583

High Turnover (Sit Down Restaurant)	6,520,511	0.00
Enclosed Parking with Elevator	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	235	—
High Turnover (Sit Down Restaurant)	256	—
Enclosed Parking with Elevator	0.00	—
Other Non-Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.58	annual days of extreme heat
Extreme Precipitation	6.70	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A

Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	51.9
AQ-PM	86.2
AQ-DPM	91.7
Drinking Water	92.5
Lead Risk Housing	40.9
Pesticides	0.00
Toxic Releases	76.9
Traffic	55.4
Effect Indicators	—
CleanUp Sites	70.6
Groundwater	16.8
Haz Waste Facilities/Generators	78.1
Impaired Water Bodies	0.00
Solid Waste	2.52
Sensitive Population	—
Asthma	34.9
Cardio-vascular	35.3
Low Birth Weights	57.6
Socioeconomic Factor Indicators	—
Education	56.5
Housing	85.3
Linguistic	97.3
Poverty	76.2
Unemployment	82.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	29.71897857
Employed	34.62081355
Median HI	20.71089439
Education	—
Bachelor's or higher	66.94469396
High school enrollment	100
Preschool enrollment	78.82715257
Transportation	—
Auto Access	14.11523162
Active commuting	91.1587322
Social	—
2-parent households	84.85820608
Voting	8.828435776
Neighborhood	—
Alcohol availability	29.53933017
Park access	48.80020531
Retail density	96.72783267
Supermarket access	94.25125112
Tree canopy	46.16963942
Housing	—
Homeownership	2.617733864
Housing habitability	14.51302451
Low-inc homeowner severe housing cost burden	64.24996792
Low-inc renter severe housing cost burden	47.70948287

Uncrowded housing	16.14269216
Health Outcomes	—
Insured adults	5.235467727
Arthritis	95.9
Asthma ER Admissions	78.8
High Blood Pressure	88.4
Cancer (excluding skin)	89.7
Asthma	98.2
Coronary Heart Disease	94.7
Chronic Obstructive Pulmonary Disease	95.5
Diagnosed Diabetes	67.4
Life Expectancy at Birth	79.5
Cognitively Disabled	98.0
Physically Disabled	60.6
Heart Attack ER Admissions	97.8
Mental Health Not Good	78.4
Chronic Kidney Disease	93.4
Obesity	94.9
Pedestrian Injuries	84.9
Physical Health Not Good	77.4
Stroke	91.3
Health Risk Behaviors	—
Binge Drinking	93.5
Current Smoker	74.7
No Leisure Time for Physical Activity	52.2
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0

Children	94.5
Elderly	78.6
English Speaking	3.8
Foreign-born	98.8
Outdoor Workers	67.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	3.6
Traffic Density	80.7
Traffic Access	87.4
Other Indices	—
Hardship	56.7
Other Decision Support	—
2016 Voting	6.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	36.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Operations: Vehicle Data	Weekday trip rates calculated based on TIA total daily trips for the site as a whole. Trips attributed to each land use based on average percentage of peak hour trips by land use.
Land Use	Project Description
Construction: Construction Phases	Project Description
Construction: Off-Road Equipment	Project-Specific Assumptions
Construction: Trips and VMT	Demolition Disposal up to 17miles. Grading disposal site 22.8 miles.
Operations: Hearths	No fireplaces or hearths proposed
Operations: Energy Use	All-Electric Residential development

Shatto Place - Proposed Custom Report

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5. Activity Data

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	1,044,151	690	0.0489	0.0069	3,156,264
High Turnover (Sit Down Restaurant)	699,671	690	0.0489	0.0069	2,034,982
Enclosed Parking with Elevator	380,539	690	0.0489	0.0069	0.00
Other Non-Asphalt Surfaces	0.00	690	0.0489	0.0069	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	1,045,592	690	0.0489	0.0069	0.00
High Turnover (Sit Down Restaurant)	699,671	690	0.0489	0.0069	2,034,982
Enclosed Parking with Elevator	380,539	690	0.0489	0.0069	0.00
Other Non-Asphalt Surfaces	0.00	690	0.0489	0.0069	0.00

ATTACHMENT B

CalEEMod Outputs – Screening Projects

Screening - 462 SFR Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Screening - 462 SFR
Operational Year	2029
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	0.50
Precipitation (days)	16.8
Location	514 Shatto Pl, Los Angeles, CA 90020, USA
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4008
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	462	Dwelling Unit	150	900,900	5,411,340	—	1,368	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Energy	E-15	Require All-Electric Development

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	36.2	15.4	138	0.32	0.67	26.8	27.5	0.66	6.81	7.47	229	43,142	43,370	25.4	1.25	76.8	44,455
Mit.	36.2	15.4	138	0.32	0.67	26.8	27.5	0.66	6.81	7.47	229	43,142	43,370	25.4	1.25	76.8	44,455
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	33.8	16.0	103	0.30	0.66	26.8	27.5	0.65	6.81	7.46	229	41,906	42,135	25.5	1.30	8.28	43,168
Mit.	33.8	16.0	103	0.30	0.66	26.8	27.5	0.65	6.81	7.46	229	41,906	42,135	25.5	1.30	8.28	43,168
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	35.0	16.0	121	0.30	0.67	25.9	26.6	0.65	6.59	7.24	229	41,657	41,886	25.4	1.28	36.2	42,939
Mit.	35.0	16.0	121	0.30	0.67	25.9	26.6	0.65	6.59	7.24	229	41,657	41,886	25.4	1.28	36.2	42,939
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.39	2.92	22.1	0.06	0.12	4.73	4.85	0.12	1.20	1.32	37.8	6,897	6,935	4.21	0.21	5.99	7,109
Mit.	6.39	2.92	22.1	0.06	0.12	4.73	4.85	0.12	1.20	1.32	37.8	6,897	6,935	4.21	0.21	5.99	7,109
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	12.8	8.95	109	0.28	0.16	26.8	27.0	0.15	6.81	6.96	—	28,236	28,236	1.29	1.09	70.3	28,662
Area	23.1	0.25	26.3	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	70.1	70.1	< 0.005	< 0.005	—	70.3
Energy	0.36	6.21	2.64	0.04	0.50	—	0.50	0.50	—	0.50	—	13,682	13,682	1.11	0.07	—	13,732
Water	—	—	—	—	—	—	—	—	—	—	33.0	1,153	1,186	3.47	0.09	—	1,300
Waste	—	—	—	—	—	—	—	—	—	—	196	0.00	196	19.5	0.00	—	684
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.45	6.45
Total	36.2	15.4	138	0.32	0.67	26.8	27.5	0.66	6.81	7.47	229	43,142	43,370	25.4	1.25	76.8	44,455
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	12.6	9.78	100	0.26	0.16	26.8	27.0	0.15	6.81	6.96	—	27,071	27,071	1.34	1.14	1.82	27,446
Area	20.8	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.36	6.21	2.64	0.04	0.50	—	0.50	0.50	—	0.50	—	13,682	13,682	1.11	0.07	—	13,732
Water	—	—	—	—	—	—	—	—	—	—	33.0	1,153	1,186	3.47	0.09	—	1,300
Waste	—	—	—	—	—	—	—	—	—	—	196	0.00	196	19.5	0.00	—	684
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.45	6.45
Total	33.8	16.0	103	0.30	0.66	26.8	27.5	0.65	6.81	7.46	229	41,906	42,135	25.5	1.30	8.28	43,168

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	12.2	9.64	101	0.26	0.16	25.9	26.1	0.14	6.59	6.73	—	26,774	26,774	1.30	1.12	29.7	27,169
Area	22.4	0.17	18.0	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	48.0	48.0	< 0.005	< 0.005	—	48.2
Energy	0.36	6.21	2.64	0.04	0.50	—	0.50	0.50	—	0.50	—	13,682	13,682	1.11	0.07	—	13,732
Water	—	—	—	—	—	—	—	—	—	—	33.0	1,153	1,186	3.47	0.09	—	1,300
Waste	—	—	—	—	—	—	—	—	—	—	196	0.00	196	19.5	0.00	—	684
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.45	6.45
Total	35.0	16.0	121	0.30	0.67	25.9	26.6	0.65	6.59	7.24	229	41,657	41,886	25.4	1.28	36.2	42,939
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.23	1.76	18.4	0.05	0.03	4.73	4.76	0.03	1.20	1.23	—	4,433	4,433	0.22	0.18	4.92	4,498
Area	4.08	0.03	3.29	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	7.95	7.95	< 0.005	< 0.005	—	7.97
Energy	0.07	1.13	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	2,265	2,265	0.18	0.01	—	2,273
Water	—	—	—	—	—	—	—	—	—	—	5.46	191	196	0.57	0.02	—	215
Waste	—	—	—	—	—	—	—	—	—	—	32.4	0.00	32.4	3.24	0.00	—	113
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.07	1.07
Total	6.39	2.92	22.1	0.06	0.12	4.73	4.85	0.12	1.20	1.32	37.8	6,897	6,935	4.21	0.21	5.99	7,109

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	12.8	8.95	109	0.28	0.16	26.8	27.0	0.15	6.81	6.96	—	28,236	28,236	1.29	1.09	70.3	28,662
Area	23.1	0.25	26.3	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	70.1	70.1	< 0.005	< 0.005	—	70.3
Energy	0.36	6.21	2.64	0.04	0.50	—	0.50	0.50	—	0.50	—	13,682	13,682	1.11	0.07	—	13,732
Water	—	—	—	—	—	—	—	—	—	—	33.0	1,153	1,186	3.47	0.09	—	1,300
Waste	—	—	—	—	—	—	—	—	—	—	196	0.00	196	19.5	0.00	—	684

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.45	6.45
Total	36.2	15.4	138	0.32	0.67	26.8	27.5	0.66	6.81	7.47	229	43,142	43,370	25.4	1.25	76.8	44,455
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	12.6	9.78	100	0.26	0.16	26.8	27.0	0.15	6.81	6.96	—	27,071	27,071	1.34	1.14	1.82	27,446
Area	20.8	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.36	6.21	2.64	0.04	0.50	—	0.50	0.50	—	0.50	—	13,682	13,682	1.11	0.07	—	13,732
Water	—	—	—	—	—	—	—	—	—	—	33.0	1,153	1,186	3.47	0.09	—	1,300
Waste	—	—	—	—	—	—	—	—	—	—	196	0.00	196	19.5	0.00	—	684
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.45	6.45
Total	33.8	16.0	103	0.30	0.66	26.8	27.5	0.65	6.81	7.46	229	41,906	42,135	25.5	1.30	8.28	43,168
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	12.2	9.64	101	0.26	0.16	25.9	26.1	0.14	6.59	6.73	—	26,774	26,774	1.30	1.12	29.7	27,169
Area	22.4	0.17	18.0	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	48.0	48.0	< 0.005	< 0.005	—	48.2
Energy	0.36	6.21	2.64	0.04	0.50	—	0.50	0.50	—	0.50	—	13,682	13,682	1.11	0.07	—	13,732
Water	—	—	—	—	—	—	—	—	—	—	33.0	1,153	1,186	3.47	0.09	—	1,300
Waste	—	—	—	—	—	—	—	—	—	—	196	0.00	196	19.5	0.00	—	684
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.45	6.45
Total	35.0	16.0	121	0.30	0.67	25.9	26.6	0.65	6.59	7.24	229	41,657	41,886	25.4	1.28	36.2	42,939
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.23	1.76	18.4	0.05	0.03	4.73	4.76	0.03	1.20	1.23	—	4,433	4,433	0.22	0.18	4.92	4,498
Area	4.08	0.03	3.29	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	7.95	7.95	< 0.005	< 0.005	—	7.97
Energy	0.07	1.13	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	2,265	2,265	0.18	0.01	—	2,273
Water	—	—	—	—	—	—	—	—	—	—	5.46	191	196	0.57	0.02	—	215
Waste	—	—	—	—	—	—	—	—	—	—	32.4	0.00	32.4	3.24	0.00	—	113
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.07	1.07
Total	6.39	2.92	22.1	0.06	0.12	4.73	4.85	0.12	1.20	1.32	37.8	6,897	6,935	4.21	0.21	5.99	7,109

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	12.8	8.95	109	0.28	0.16	26.8	27.0	0.15	6.81	6.96	—	28,236	28,236	1.29	1.09	70.3	28,662
Total	12.8	8.95	109	0.28	0.16	26.8	27.0	0.15	6.81	6.96	—	28,236	28,236	1.29	1.09	70.3	28,662
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	12.6	9.78	100	0.26	0.16	26.8	27.0	0.15	6.81	6.96	—	27,071	27,071	1.34	1.14	1.82	27,446
Total	12.6	9.78	100	0.26	0.16	26.8	27.0	0.15	6.81	6.96	—	27,071	27,071	1.34	1.14	1.82	27,446
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	2.23	1.76	18.4	0.05	0.03	4.73	4.76	0.03	1.20	1.23	—	4,433	4,433	0.22	0.18	4.92	4,498
Total	2.23	1.76	18.4	0.05	0.03	4.73	4.76	0.03	1.20	1.23	—	4,433	4,433	0.22	0.18	4.92	4,498

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	12.8	8.95	109	0.28	0.16	26.8	27.0	0.15	6.81	6.96	—	28,236	28,236	1.29	1.09	70.3	28,662
Total	12.8	8.95	109	0.28	0.16	26.8	27.0	0.15	6.81	6.96	—	28,236	28,236	1.29	1.09	70.3	28,662
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	12.6	9.78	100	0.26	0.16	26.8	27.0	0.15	6.81	6.96	—	27,071	27,071	1.34	1.14	1.82	27,446
Total	12.6	9.78	100	0.26	0.16	26.8	27.0	0.15	6.81	6.96	—	27,071	27,071	1.34	1.14	1.82	27,446
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	2.23	1.76	18.4	0.05	0.03	4.73	4.76	0.03	1.20	1.23	—	4,433	4,433	0.22	0.18	4.92	4,498
Total	2.23	1.76	18.4	0.05	0.03	4.73	4.76	0.03	1.20	1.23	—	4,433	4,433	0.22	0.18	4.92	4,498

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	5,796	5,796	0.41	0.06	—	5,824
Total	—	—	—	—	—	—	—	—	—	—	—	5,796	5,796	0.41	0.06	—	5,824

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	5,796	5,796	0.41	0.06	—	5,824
Total	—	—	—	—	—	—	—	—	—	—	—	5,796	5,796	0.41	0.06	—	5,824
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	960	960	0.07	0.01	—	964
Total	—	—	—	—	—	—	—	—	—	—	—	960	960	0.07	0.01	—	964

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	5,796	5,796	0.41	0.06	—	5,824
Total	—	—	—	—	—	—	—	—	—	—	—	5,796	5,796	0.41	0.06	—	5,824
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	5,796	5,796	0.41	0.06	—	5,824
Total	—	—	—	—	—	—	—	—	—	—	—	5,796	5,796	0.41	0.06	—	5,824
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	960	960	0.07	0.01	—	964
Total	—	—	—	—	—	—	—	—	—	—	—	960	960	0.07	0.01	—	964

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.36	6.21	2.64	0.04	0.50	—	0.50	0.50	—	0.50	—	7,886	7,886	0.70	0.01	—	7,908
Total	0.36	6.21	2.64	0.04	0.50	—	0.50	0.50	—	0.50	—	7,886	7,886	0.70	0.01	—	7,908
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.36	6.21	2.64	0.04	0.50	—	0.50	0.50	—	0.50	—	7,886	7,886	0.70	0.01	—	7,908
Total	0.36	6.21	2.64	0.04	0.50	—	0.50	0.50	—	0.50	—	7,886	7,886	0.70	0.01	—	7,908
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.07	1.13	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	1,306	1,306	0.12	< 0.005	—	1,309
Total	0.07	1.13	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	1,306	1,306	0.12	< 0.005	—	1,309

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.36	6.21	2.64	0.04	0.50	—	0.50	0.50	—	0.50	—	7,886	7,886	0.70	0.01	—	7,908
Total	0.36	6.21	2.64	0.04	0.50	—	0.50	0.50	—	0.50	—	7,886	7,886	0.70	0.01	—	7,908
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.36	6.21	2.64	0.04	0.50	—	0.50	0.50	—	0.50	—	7,886	7,886	0.70	0.01	—	7,908
Total	0.36	6.21	2.64	0.04	0.50	—	0.50	0.50	—	0.50	—	7,886	7,886	0.70	0.01	—	7,908
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.07	1.13	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	1,306	1,306	0.12	< 0.005	—	1,309
Total	0.07	1.13	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	1,306	1,306	0.12	< 0.005	—	1,309

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	19.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	1.54	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.27	0.25	26.3	< 0.005	0.01	—	0.01	0.01	—	0.01	—	70.1	70.1	< 0.005	< 0.005	—	70.3
Total	23.1	0.25	26.3	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	70.1	70.1	< 0.005	< 0.005	—	70.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	19.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.54	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	20.8	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	3.52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.28	0.03	3.29	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.95	7.95	< 0.005	< 0.005	—	7.97
Total	4.08	0.03	3.29	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	7.95	7.95	< 0.005	< 0.005	—	7.97

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	19.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.54	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.27	0.25	26.3	< 0.005	0.01	—	0.01	0.01	—	0.01	—	70.1	70.1	< 0.005	< 0.005	—	70.3
Total	23.1	0.25	26.3	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	70.1	70.1	< 0.005	< 0.005	—	70.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	19.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.54	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	20.8	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	3.52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipment	0.28	0.03	3.29	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.95	7.95	< 0.005	< 0.005	—	7.97
Total	4.08	0.03	3.29	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	7.95	7.95	< 0.005	< 0.005	—	7.97

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	33.0	1,153	1,186	3.47	0.09	—	1,300
Total	—	—	—	—	—	—	—	—	—	—	33.0	1,153	1,186	3.47	0.09	—	1,300
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	33.0	1,153	1,186	3.47	0.09	—	1,300
Total	—	—	—	—	—	—	—	—	—	—	33.0	1,153	1,186	3.47	0.09	—	1,300
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	5.46	191	196	0.57	0.02	—	215
Total	—	—	—	—	—	—	—	—	—	—	5.46	191	196	0.57	0.02	—	215

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	33.0	1,153	1,186	3.47	0.09	—	1,300
Total	—	—	—	—	—	—	—	—	—	—	33.0	1,153	1,186	3.47	0.09	—	1,300
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	33.0	1,153	1,186	3.47	0.09	—	1,300
Total	—	—	—	—	—	—	—	—	—	—	33.0	1,153	1,186	3.47	0.09	—	1,300
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	5.46	191	196	0.57	0.02	—	215
Total	—	—	—	—	—	—	—	—	—	—	5.46	191	196	0.57	0.02	—	215

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	196	0.00	196	19.5	0.00	—	684

Total	—	—	—	—	—	—	—	—	—	—	196	0.00	196	19.5	0.00	—	684
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	196	0.00	196	19.5	0.00	—	684
Total	—	—	—	—	—	—	—	—	—	—	196	0.00	196	19.5	0.00	—	684
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	32.4	0.00	32.4	3.24	0.00	—	113
Total	—	—	—	—	—	—	—	—	—	—	32.4	0.00	32.4	3.24	0.00	—	113

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	196	0.00	196	19.5	0.00	—	684
Total	—	—	—	—	—	—	—	—	—	—	196	0.00	196	19.5	0.00	—	684
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	196	0.00	196	19.5	0.00	—	684
Total	—	—	—	—	—	—	—	—	—	—	196	0.00	196	19.5	0.00	—	684
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	32.4	0.00	32.4	3.24	0.00	—	113
Total	—	—	—	—	—	—	—	—	—	—	32.4	0.00	32.4	3.24	0.00	—	113

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.45	6.45
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.45	6.45
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.45	6.45
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.45	6.45
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.07	1.07
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.07	1.07

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.45	6.45
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.45	6.45
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.45	6.45
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.45	6.45
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.07	1.07
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.07	1.07

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	4,361	4,407	3,950	1,572,836	37,411	37,808	33,884	13,491,920

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	4,361	4,407	3,950	1,572,836	37,411	37,808	33,884	13,491,920

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0

Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	462
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	462
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
1824322.5	608,108	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	3,064,412	690	0.0489	0.0069	24,606,274

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	3,064,412	690	0.0489	0.0069	24,606,274

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	17,220,496	92,756,632

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	17,220,496	92,756,632

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	363	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	363	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.58	annual days of extreme heat
Extreme Precipitation	6.70	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	51.9
AQ-PM	86.2

AQ-DPM	91.7
Drinking Water	92.5
Lead Risk Housing	40.9
Pesticides	0.00
Toxic Releases	76.9
Traffic	55.4
Effect Indicators	—
CleanUp Sites	70.6
Groundwater	16.8
Haz Waste Facilities/Generators	78.1
Impaired Water Bodies	0.00
Solid Waste	2.52
Sensitive Population	—
Asthma	34.9
Cardio-vascular	35.3
Low Birth Weights	57.6
Socioeconomic Factor Indicators	—
Education	56.5
Housing	85.3
Linguistic	97.3
Poverty	76.2
Unemployment	82.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	29.71897857

Employed	34.62081355
Median HI	20.71089439
Education	—
Bachelor's or higher	66.94469396
High school enrollment	100
Preschool enrollment	78.82715257
Transportation	—
Auto Access	14.11523162
Active commuting	91.1587322
Social	—
2-parent households	84.85820608
Voting	8.828435776
Neighborhood	—
Alcohol availability	29.53933017
Park access	48.80020531
Retail density	96.72783267
Supermarket access	94.25125112
Tree canopy	46.16963942
Housing	—
Homeownership	2.617733864
Housing habitability	14.51302451
Low-inc homeowner severe housing cost burden	64.24996792
Low-inc renter severe housing cost burden	47.70948287
Uncrowded housing	16.14269216
Health Outcomes	—
Insured adults	5.235467727
Arthritis	95.9
Asthma ER Admissions	78.8

High Blood Pressure	88.4
Cancer (excluding skin)	89.7
Asthma	98.2
Coronary Heart Disease	94.7
Chronic Obstructive Pulmonary Disease	95.5
Diagnosed Diabetes	67.4
Life Expectancy at Birth	79.5
Cognitively Disabled	98.0
Physically Disabled	60.6
Heart Attack ER Admissions	97.8
Mental Health Not Good	78.4
Chronic Kidney Disease	93.4
Obesity	94.9
Pedestrian Injuries	84.9
Physical Health Not Good	77.4
Stroke	91.3
Health Risk Behaviors	—
Binge Drinking	93.5
Current Smoker	74.7
No Leisure Time for Physical Activity	52.2
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	94.5
Elderly	78.6
English Speaking	3.8
Foreign-born	98.8
Outdoor Workers	67.0

Climate Change Adaptive Capacity	—
Impervious Surface Cover	3.6
Traffic Density	80.7
Traffic Access	87.4
Other Indices	—
Hardship	56.7
Other Decision Support	—
2016 Voting	6.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	36.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification

Operations: Vehicle Data	Weekday trip rates calculated based on TIA total daily trips for the site as a whole. Trips attributed to each land use based on average percentage of peak hour trips by land use.
Land Use	Project Description
Construction: Construction Phases	Project Description
Construction: Off-Road Equipment	Project-Specific Assumptions
Construction: Trips and VMT	Demolition Disposal up to 17miles. Grading disposal site 22.8 miles.
Operations: Hearths	No fireplaces or hearths proposed
Operations: Energy Use	All-Electric Residential development

Screening - 612 MFR Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Screening - 612 MFR
Operational Year	2029
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	0.50
Precipitation (days)	16.8
Location	514 Shatto Pl, Los Angeles, CA 90020, USA
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4008
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	612	Dwelling Unit	16.1	587,520	0.00	—	1,812	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Energy	E-15	Require All-Electric Development

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	26.3	8.62	118	0.22	0.26	20.3	20.5	0.25	5.14	5.39	288	27,463	27,751	30.3	0.97	57.3	28,855
Mit.	26.2	7.08	117	0.21	0.14	20.3	20.4	0.12	5.14	5.27	288	25,519	25,807	30.1	0.97	57.3	26,906
% Reduced	< 0.5%	18%	1%	4%	48%	—	1%	50%	—	2%	—	7%	7%	1%	< 0.5%	—	7%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	23.2	8.92	76.5	0.21	0.24	20.3	20.5	0.24	5.14	5.38	288	26,490	26,778	30.3	1.01	5.59	27,843
Mit.	23.1	7.39	75.9	0.20	0.12	20.3	20.4	0.11	5.14	5.26	288	24,546	24,834	30.2	1.01	5.59	25,894
% Reduced	< 0.5%	17%	1%	5%	51%	—	1%	53%	—	2%	—	7%	7%	1%	< 0.5%	—	7%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	24.7	8.84	98.5	0.20	0.25	19.0	19.3	0.24	4.84	5.08	288	25,770	26,057	30.3	0.97	26.0	27,130
Mit.	24.6	7.30	97.8	0.19	0.13	19.0	19.2	0.11	4.84	4.95	288	23,826	24,113	30.1	0.97	26.0	25,180
% Reduced	< 0.5%	17%	1%	5%	50%	—	1%	52%	—	2%	—	8%	7%	1%	< 0.5%	—	7%

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.51	1.61	18.0	0.04	0.05	3.48	3.52	0.04	0.88	0.93	47.6	4,266	4,314	5.01	0.16	4.31	4,492
Mit.	4.50	1.33	17.8	0.04	0.02	3.48	3.50	0.02	0.88	0.90	47.6	3,945	3,992	4.99	0.16	4.31	4,169
% Reduced	< 0.5%	17%	1%	5%	50%	—	1%	52%	—	2%	—	8%	7%	1%	< 0.5%	—	7%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	9.63	6.76	82.3	0.21	0.12	20.3	20.4	0.11	5.14	5.26	—	21,329	21,329	0.97	0.82	53.1	21,651
Area	16.6	0.33	34.8	< 0.005	0.02	—	0.02	0.01	—	0.01	0.00	92.8	92.8	< 0.005	< 0.005	—	93.2
Energy	0.09	1.53	0.65	0.01	0.12	—	0.12	0.12	—	0.12	—	5,748	5,748	0.44	0.04	—	5,771
Water	—	—	—	—	—	—	—	—	—	—	43.7	294	337	4.50	0.11	—	483
Waste	—	—	—	—	—	—	—	—	—	—	244	0.00	244	24.4	0.00	—	854
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.21	4.21
Total	26.3	8.62	118	0.22	0.26	20.3	20.5	0.25	5.14	5.39	288	27,463	27,751	30.3	0.97	57.3	28,855
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	9.54	7.39	75.9	0.20	0.12	20.3	20.4	0.11	5.14	5.26	—	20,449	20,449	1.01	0.86	1.38	20,732
Area	13.6	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.09	1.53	0.65	0.01	0.12	—	0.12	0.12	—	0.12	—	5,748	5,748	0.44	0.04	—	5,771
Water	—	—	—	—	—	—	—	—	—	—	43.7	294	337	4.50	0.11	—	483
Waste	—	—	—	—	—	—	—	—	—	—	244	0.00	244	24.4	0.00	—	854
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.21	4.21
Total	23.2	8.92	76.5	0.21	0.24	20.3	20.5	0.24	5.14	5.38	288	26,490	26,778	30.3	1.01	5.59	27,843

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.99	7.08	74.0	0.19	0.11	19.0	19.2	0.11	4.84	4.95	—	19,665	19,665	0.96	0.82	21.8	19,954
Area	15.6	0.22	23.8	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	63.6	63.6	< 0.005	< 0.005	—	63.8
Energy	0.09	1.53	0.65	0.01	0.12	—	0.12	0.12	—	0.12	—	5,748	5,748	0.44	0.04	—	5,771
Water	—	—	—	—	—	—	—	—	—	—	43.7	294	337	4.50	0.11	—	483
Waste	—	—	—	—	—	—	—	—	—	—	244	0.00	244	24.4	0.00	—	854
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.21	4.21
Total	24.7	8.84	98.5	0.20	0.25	19.0	19.3	0.24	4.84	5.08	288	25,770	26,057	30.3	0.97	26.0	27,130
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.64	1.29	13.5	0.04	0.02	3.48	3.50	0.02	0.88	0.90	—	3,256	3,256	0.16	0.14	3.61	3,304
Area	2.85	0.04	4.35	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	10.5	10.5	< 0.005	< 0.005	—	10.6
Energy	0.02	0.28	0.12	< 0.005	0.02	—	0.02	0.02	—	0.02	—	952	952	0.07	0.01	—	955
Water	—	—	—	—	—	—	—	—	—	—	7.24	48.6	55.9	0.75	0.02	—	79.9
Waste	—	—	—	—	—	—	—	—	—	—	40.4	0.00	40.4	4.04	0.00	—	141
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.70	0.70
Total	4.51	1.61	18.0	0.04	0.05	3.48	3.52	0.04	0.88	0.93	47.6	4,266	4,314	5.01	0.16	4.31	4,492

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	9.63	6.76	82.3	0.21	0.12	20.3	20.4	0.11	5.14	5.26	—	21,329	21,329	0.97	0.82	53.1	21,651
Area	16.6	0.33	34.8	< 0.005	0.02	—	0.02	0.01	—	0.01	0.00	92.8	92.8	< 0.005	< 0.005	—	93.2
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3,804	3,804	0.27	0.04	—	3,822
Water	—	—	—	—	—	—	—	—	—	—	43.7	294	337	4.50	0.11	—	483
Waste	—	—	—	—	—	—	—	—	—	—	244	0.00	244	24.4	0.00	—	854

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.21	4.21
Total	26.2	7.08	117	0.21	0.14	20.3	20.4	0.12	5.14	5.27	288	25,519	25,807	30.1	0.97	57.3	26,906
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	9.54	7.39	75.9	0.20	0.12	20.3	20.4	0.11	5.14	5.26	—	20,449	20,449	1.01	0.86	1.38	20,732
Area	13.6	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3,804	3,804	0.27	0.04	—	3,822
Water	—	—	—	—	—	—	—	—	—	—	43.7	294	337	4.50	0.11	—	483
Waste	—	—	—	—	—	—	—	—	—	—	244	0.00	244	24.4	0.00	—	854
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.21	4.21
Total	23.1	7.39	75.9	0.20	0.12	20.3	20.4	0.11	5.14	5.26	288	24,546	24,834	30.2	1.01	5.59	25,894
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.99	7.08	74.0	0.19	0.11	19.0	19.2	0.11	4.84	4.95	—	19,665	19,665	0.96	0.82	21.8	19,954
Area	15.6	0.22	23.8	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	63.6	63.6	< 0.005	< 0.005	—	63.8
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3,804	3,804	0.27	0.04	—	3,822
Water	—	—	—	—	—	—	—	—	—	—	43.7	294	337	4.50	0.11	—	483
Waste	—	—	—	—	—	—	—	—	—	—	244	0.00	244	24.4	0.00	—	854
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.21	4.21
Total	24.6	7.30	97.8	0.19	0.13	19.0	19.2	0.11	4.84	4.95	288	23,826	24,113	30.1	0.97	26.0	25,180
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.64	1.29	13.5	0.04	0.02	3.48	3.50	0.02	0.88	0.90	—	3,256	3,256	0.16	0.14	3.61	3,304
Area	2.85	0.04	4.35	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	10.5	10.5	< 0.005	< 0.005	—	10.6
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	630	630	0.04	0.01	—	633
Water	—	—	—	—	—	—	—	—	—	—	7.24	48.6	55.9	0.75	0.02	—	79.9
Waste	—	—	—	—	—	—	—	—	—	—	40.4	0.00	40.4	4.04	0.00	—	141
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.70	0.70
Total	4.50	1.33	17.8	0.04	0.02	3.48	3.50	0.02	0.88	0.90	47.6	3,945	3,992	4.99	0.16	4.31	4,169

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	9.63	6.76	82.3	0.21	0.12	20.3	20.4	0.11	5.14	5.26	—	21,329	21,329	0.97	0.82	53.1	21,651
Total	9.63	6.76	82.3	0.21	0.12	20.3	20.4	0.11	5.14	5.26	—	21,329	21,329	0.97	0.82	53.1	21,651
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	9.54	7.39	75.9	0.20	0.12	20.3	20.4	0.11	5.14	5.26	—	20,449	20,449	1.01	0.86	1.38	20,732
Total	9.54	7.39	75.9	0.20	0.12	20.3	20.4	0.11	5.14	5.26	—	20,449	20,449	1.01	0.86	1.38	20,732
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	1.64	1.29	13.5	0.04	0.02	3.48	3.50	0.02	0.88	0.90	—	3,256	3,256	0.16	0.14	3.61	3,304
Total	1.64	1.29	13.5	0.04	0.02	3.48	3.50	0.02	0.88	0.90	—	3,256	3,256	0.16	0.14	3.61	3,304

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	9.63	6.76	82.3	0.21	0.12	20.3	20.4	0.11	5.14	5.26	—	21,329	21,329	0.97	0.82	53.1	21,651
Total	9.63	6.76	82.3	0.21	0.12	20.3	20.4	0.11	5.14	5.26	—	21,329	21,329	0.97	0.82	53.1	21,651
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	9.54	7.39	75.9	0.20	0.12	20.3	20.4	0.11	5.14	5.26	—	20,449	20,449	1.01	0.86	1.38	20,732
Total	9.54	7.39	75.9	0.20	0.12	20.3	20.4	0.11	5.14	5.26	—	20,449	20,449	1.01	0.86	1.38	20,732
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	1.64	1.29	13.5	0.04	0.02	3.48	3.50	0.02	0.88	0.90	—	3,256	3,256	0.16	0.14	3.61	3,304
Total	1.64	1.29	13.5	0.04	0.02	3.48	3.50	0.02	0.88	0.90	—	3,256	3,256	0.16	0.14	3.61	3,304

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	3,801	3,801	0.27	0.04	—	3,819
Total	—	—	—	—	—	—	—	—	—	—	—	3,801	3,801	0.27	0.04	—	3,819

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	3,801	3,801	0.27	0.04	—	3,819
Total	—	—	—	—	—	—	—	—	—	—	—	3,801	3,801	0.27	0.04	—	3,819
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	629	629	0.04	0.01	—	632
Total	—	—	—	—	—	—	—	—	—	—	—	629	629	0.04	0.01	—	632

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	3,804	3,804	0.27	0.04	—	3,822
Total	—	—	—	—	—	—	—	—	—	—	—	3,804	3,804	0.27	0.04	—	3,822
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	3,804	3,804	0.27	0.04	—	3,822
Total	—	—	—	—	—	—	—	—	—	—	—	3,804	3,804	0.27	0.04	—	3,822
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	630	630	0.04	0.01	—	633
Total	—	—	—	—	—	—	—	—	—	—	—	630	630	0.04	0.01	—	633

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.09	1.53	0.65	0.01	0.12	—	0.12	0.12	—	0.12	—	1,947	1,947	0.17	< 0.005	—	1,952
Total	0.09	1.53	0.65	0.01	0.12	—	0.12	0.12	—	0.12	—	1,947	1,947	0.17	< 0.005	—	1,952
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.09	1.53	0.65	0.01	0.12	—	0.12	0.12	—	0.12	—	1,947	1,947	0.17	< 0.005	—	1,952
Total	0.09	1.53	0.65	0.01	0.12	—	0.12	0.12	—	0.12	—	1,947	1,947	0.17	< 0.005	—	1,952
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.02	0.28	0.12	< 0.005	0.02	—	0.02	0.02	—	0.02	—	322	322	0.03	< 0.005	—	323
Total	0.02	0.28	0.12	< 0.005	0.02	—	0.02	0.02	—	0.02	—	322	322	0.03	< 0.005	—	323

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	12.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	3.01	0.33	34.8	< 0.005	0.02	—	0.02	0.01	—	0.01	—	92.8	92.8	< 0.005	< 0.005	—	93.2
Total	16.6	0.33	34.8	< 0.005	0.02	—	0.02	0.01	—	0.01	0.00	92.8	92.8	< 0.005	< 0.005	—	93.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	12.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	13.6	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	2.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.38	0.04	4.35	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.5	10.5	< 0.005	< 0.005	—	10.6
Total	2.85	0.04	4.35	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	10.5	10.5	< 0.005	< 0.005	—	10.6

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	12.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	3.01	0.33	34.8	< 0.005	0.02	—	0.02	0.01	—	0.01	—	92.8	92.8	< 0.005	< 0.005	—	93.2
Total	16.6	0.33	34.8	< 0.005	0.02	—	0.02	0.01	—	0.01	0.00	92.8	92.8	< 0.005	< 0.005	—	93.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	12.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	13.6	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	2.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landsca Equipment	0.38	0.04	4.35	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.5	10.5	< 0.005	< 0.005	—	10.6
Total	2.85	0.04	4.35	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	10.5	10.5	< 0.005	< 0.005	—	10.6

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	43.7	294	337	4.50	0.11	—	483
Total	—	—	—	—	—	—	—	—	—	—	43.7	294	337	4.50	0.11	—	483
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	43.7	294	337	4.50	0.11	—	483
Total	—	—	—	—	—	—	—	—	—	—	43.7	294	337	4.50	0.11	—	483
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	7.24	48.6	55.9	0.75	0.02	—	79.9
Total	—	—	—	—	—	—	—	—	—	—	7.24	48.6	55.9	0.75	0.02	—	79.9

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	43.7	294	337	4.50	0.11	—	483
Total	—	—	—	—	—	—	—	—	—	—	43.7	294	337	4.50	0.11	—	483
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	43.7	294	337	4.50	0.11	—	483
Total	—	—	—	—	—	—	—	—	—	—	43.7	294	337	4.50	0.11	—	483
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	7.24	48.6	55.9	0.75	0.02	—	79.9
Total	—	—	—	—	—	—	—	—	—	—	7.24	48.6	55.9	0.75	0.02	—	79.9

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	244	0.00	244	24.4	0.00	—	854

Total	—	—	—	—	—	—	—	—	—	—	244	0.00	244	24.4	0.00	—	854
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	244	0.00	244	24.4	0.00	—	854
Total	—	—	—	—	—	—	—	—	—	—	244	0.00	244	24.4	0.00	—	854
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	40.4	0.00	40.4	4.04	0.00	—	141
Total	—	—	—	—	—	—	—	—	—	—	40.4	0.00	40.4	4.04	0.00	—	141

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	244	0.00	244	24.4	0.00	—	854
Total	—	—	—	—	—	—	—	—	—	—	244	0.00	244	24.4	0.00	—	854
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	244	0.00	244	24.4	0.00	—	854
Total	—	—	—	—	—	—	—	—	—	—	244	0.00	244	24.4	0.00	—	854
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments	—	—	—	—	—	—	—	—	—	—	40.4	0.00	40.4	4.04	0.00	—	141
Total	—	—	—	—	—	—	—	—	—	—	40.4	0.00	40.4	4.04	0.00	—	141

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.21	4.21
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.21	4.21
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.21	4.21
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.21	4.21
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.70	0.70
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.70	0.70

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.21	4.21
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.21	4.21
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.21	4.21
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.21	4.21
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.70	0.70
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.70	0.70

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	3,329	3,005	2,503	1,155,194	28,559	25,776	21,472	9,909,349

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	3,329	3,005	2,503	1,155,194	28,559	25,776	21,472	9,909,349

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	0

Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	612
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	612
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
1189728	396,576	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	2,009,498	690	0.0489	0.0069	6,074,320

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	2,010,939	690	0.0489	0.0069	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	22,811,566	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	22,811,566	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	453	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	453	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.58	annual days of extreme heat
Extreme Precipitation	6.70	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	51.9
AQ-PM	86.2

AQ-DPM	91.7
Drinking Water	92.5
Lead Risk Housing	40.9
Pesticides	0.00
Toxic Releases	76.9
Traffic	55.4
Effect Indicators	—
CleanUp Sites	70.6
Groundwater	16.8
Haz Waste Facilities/Generators	78.1
Impaired Water Bodies	0.00
Solid Waste	2.52
Sensitive Population	—
Asthma	34.9
Cardio-vascular	35.3
Low Birth Weights	57.6
Socioeconomic Factor Indicators	—
Education	56.5
Housing	85.3
Linguistic	97.3
Poverty	76.2
Unemployment	82.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	29.71897857

Employed	34.62081355
Median HI	20.71089439
Education	—
Bachelor's or higher	66.94469396
High school enrollment	100
Preschool enrollment	78.82715257
Transportation	—
Auto Access	14.11523162
Active commuting	91.1587322
Social	—
2-parent households	84.85820608
Voting	8.828435776
Neighborhood	—
Alcohol availability	29.53933017
Park access	48.80020531
Retail density	96.72783267
Supermarket access	94.25125112
Tree canopy	46.16963942
Housing	—
Homeownership	2.617733864
Housing habitability	14.51302451
Low-inc homeowner severe housing cost burden	64.24996792
Low-inc renter severe housing cost burden	47.70948287
Uncrowded housing	16.14269216
Health Outcomes	—
Insured adults	5.235467727
Arthritis	95.9
Asthma ER Admissions	78.8

High Blood Pressure	88.4
Cancer (excluding skin)	89.7
Asthma	98.2
Coronary Heart Disease	94.7
Chronic Obstructive Pulmonary Disease	95.5
Diagnosed Diabetes	67.4
Life Expectancy at Birth	79.5
Cognitively Disabled	98.0
Physically Disabled	60.6
Heart Attack ER Admissions	97.8
Mental Health Not Good	78.4
Chronic Kidney Disease	93.4
Obesity	94.9
Pedestrian Injuries	84.9
Physical Health Not Good	77.4
Stroke	91.3
Health Risk Behaviors	—
Binge Drinking	93.5
Current Smoker	74.7
No Leisure Time for Physical Activity	52.2
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	94.5
Elderly	78.6
English Speaking	3.8
Foreign-born	98.8
Outdoor Workers	67.0

Climate Change Adaptive Capacity	—
Impervious Surface Cover	3.6
Traffic Density	80.7
Traffic Access	87.4
Other Indices	—
Hardship	56.7
Other Decision Support	—
2016 Voting	6.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	36.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification

Operations: Vehicle Data	Weekday trip rates calculated based on TIA total daily trips for the site as a whole. Trips attributed to each land use based on average percentage of peak hour trips by land use.
Land Use	Project Description
Construction: Construction Phases	Project Description
Construction: Off-Road Equipment	Project-Specific Assumptions
Construction: Trips and VMT	Demolition Disposal up to 17miles. Grading disposal site 22.8 miles.
Operations: Hearths	No fireplaces or hearths proposed
Operations: Energy Use	All-Electric Residential development

Appendix H
Transportation Studies

Appendix H-1
Supplemental Transportation Assessment

Gibson transportation consulting, inc.

MEMORANDUM

TO: Eileen Hunt, Los Angeles Department of Transportation

FROM: Casey Le, P.E., and Rebecca Avanesian

DATE: October 29, 2024

RE: Supplemental Transportation Assessment for the Refined 550 S. Shatto Place Project Los Angeles, California **Ref:** J1606a

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This memorandum presents an assessment of the 550 S. Shatto Place Project (Project) located at 514-550 S. Shatto Place and 3119 W. 6th Street (Project Site) in the *Wilshire Community Plan* (Los Angeles Department of City Planning [LADCP], 2001) area of the City of Los Angeles, California (City).

The Project's development program has been refined since the completion of Sustainable Communities Environmental Assessment (SCEA) for the Project, which was approved on August 14, 2019, and the issuance of the Los Angeles Department of Transportation's (LADOT) *Inter-Departmental Correspondence: Transportation Study Assessment for the Proposed Mixed-Use Project Located at 550 South Shatto Place* (October 18, 2018) (LADOT Assessment Letter) regarding *Transportation Impact Study for the 550 S. Shatto Place Project* (Gibson Transportation Consulting, Inc. [GTC], October 2018) (Approved Transportation Study).

GTC reviewed the refinements to the Project in accordance with the latest adopted methodology and guidelines outlined in *Transportation Assessment Guidelines* (LADOT, Updated August 2022) (TAG) for California Environmental Quality Act (CEQA) purposes.

ORIGINAL PROJECT

The Approved Transportation Study analyzed a mixed-use development within a new 31-level mixed-use building with 256 multi-family housing units, including 29 affordable housing units, approximately 2,507 square feet (sf) of office space, and approximately 12,800 sf of restaurant space (Original Project). The Original Project would replace the existing 170-student private school and associated 45-space surface parking lot.

Parking for the Original Project was proposed within one at-grade level and four below-grade levels of parking, with vehicular access provided via one full access driveway on Shatto Place.

Pedestrian and bicycle access to the Project Site would be provided along Shatto Place and 6th Street.

655 N. Central Avenue, Suite 920 Glendale, CA 91203 p. 213.683.0088 f. 213.683.0033

As summarized in the approved SCEA and LADOT Assessment Letter, the Original Project would not result in any significant transportation impacts with implementation of the identified mitigation measures (MMs). These MMs include a detailed construction management plan (MM TRAF-1) as well as additional measures (MM TRAF-2 through MM TRAF-5) to reduce potential construction-related traffic and safety constraints in the immediate area. Furthermore, the Original Project would not result in adverse operating conditions, and no corrective measures were required. The list of MMs and LADOT Assessment Letter are provided in Attachment A.

REFINED PROJECT

The Project Applicant has obtained an adjacent building to the north consisting of 27,843 sf of office space and incorporated it into the Project design. The latest Project development program consists of 318 multi-family residential units, including 35 affordable housing units and three live-work units, and 21,482 sf of commercial uses within a new eight-story building and the repurposed church building (Refined Project). The Refined Project would replace 27,843 sf of existing office space and the existing 170-student private school and associated 45-space surface parking lot. The Refined Project also extends the buildout year to Year 2029. Under the Refined Project, parking would be contained within three levels of parking with access via two driveways along Shatto Place. The southern driveway would provide access to the commercial and residential parking on the ground level and the northern driveway would provide access to the residential parking on the subterranean levels. Consistent with the Original Project, all loading would be internal to the Project Site and accessed via Shatto Place and, as such, no vehicular access to the parking and loading facilities is proposed along 6th Street. A service entryway for emergency vehicles only is provided along 6th Street and would be limited to right-turns in/out. Pedestrian and bicycle access to the Project Site would continue to be provided via entrances along Shatto Place and 6th Street.

Consistent with the Original Project, the Refined Project would implement MMs TRAF-1 through TRAF-5. As further detailed below, the Refined Project would not result in any significant transportation impacts, and no additional MMs are required.

The conceptual site plan for the Refined Project is illustrated in Figure 1.

UPDATES TO PROJECT BACKGROUND CONTEXT

Existing Transit System

Since the Approved Transportation Study, updates to the Los Angeles County Metropolitan Transportation Authority (Metro) bus system in the immediate area have been implemented as part of Metro's NextGen Bus Plan. Figure 2 illustrates the current transit service in the Study Area and the Major Transit Stop[1] at the Metro B/D Line Wilshire/Vermont Station, which is located

[1] California Public Resources Code Section 21064.3 defines a major transit stop as "a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 20 minutes or less during the morning and afternoon peak commute periods." Per California Assembly Bill 2553 (Approved September 19, 2024), the frequency of service interval of 15 minutes or less as previously defined in California Public Resources Code Section 21064.3(c) was amended to 20 minutes or less.

approximately 500 feet southwest of the Project Site. Table 1 summarizes the transit lines operating in the Study Area for each of the service providers in the region, the type of service (peak vs. off-peak, express vs. local), and frequency of service based on current conditions, including recent changes per Metro's NextGen Bus Plan.

Related Projects

The Related Projects list was also updated to incorporate the latest available information from LADOT and LADCP, as well as other recent studies for development projects in the area within a radius of 0.5 miles. The updated list of Related Projects is detailed in Table 2 and illustrated in Figure 3 and is considered and reflected in the future cumulative analysis.

CEQA ANALYSIS OF TRANSPORTATION IMPACTS

The Approved Transportation Study evaluated the Original Project's potential transportation impacts using the level of service (LOS) methodology formerly required by CEQA. As detailed below, the Refined Project was evaluated for potential significant CEQA impacts in accordance with the latest methodology and guidelines outlined in the TAG.

Threshold T-1: Conflicting with Plans, Programs, Ordinances, Or Policies Analysis

Threshold T-1 assesses whether a project would conflict with an adopted program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities.

Refined Project Consistency. Consistent with the Original Project, the Refined Project would include the same land use types (i.e., residential and commercial uses) and be designed to conform with the applicable programs, plans, ordinances, or policies identified in Table 2-1.1 of the TAG related to the circulation system, including transit, roadways, bicycles, and pedestrian facilities. Furthermore, the Refined Project would not preclude the City from implementing future improvements to serve the long-term mobility needs of the City. Therefore, the Refined Project would not result in a significant impact under Threshold T-1.

Cumulatively, each of the Related Projects considered in the analysis would be separately reviewed and approved by the City and would be individually responsible for complying with relevant plans, programs, ordinances, or policies addressing the circulation system. Therefore, the Refined Project, together with the Related Projects within 0.50 miles of the Project Site, would not result in a cumulative impact that would preclude the City from serving the transportation needs as defined by the City's adopted programs, plans, ordinances, or policies. The Refined Project and the Related Projects would not interfere with any of the general policy recommendations and/or pilot proposals and, therefore, there would be no significant impact or cumulative impact.

Threshold T-2.1: Causing Substantial Vehicle Miles Traveled (VMT) Analysis

The VMT analysis for the Refined Project was evaluated using *City of Los Angeles VMT Calculator Version 1.5* (LADOT, October 2024) (VMT Calculator), as required by the TAG. The VMT analysis presented below reflects estimates of daily household VMT per capita for the Refined Project. The TAG identifies a significant impact criterion of 6.0 household VMT per capita for the Central Area Planning Commission (APC).

Refined Project VMT. The VMT Calculator was modeled with the Refined Project's land use and density as the primary inputs. The Refined Project's new total non-office commercial use is less than 50,000 sf. Therefore, per the TAG, the Refined Project's 21,482 sf of new commercial space is considered local-serving and, thus, has a negligible impact on regional VMT and a "no impact" determination can be made. Although the Refined Project would include design features considered as Transportation Demand Management strategies to reduce the number of single occupancy vehicle trips to the Project Site, for purposes of providing a conservative analysis, these design features were not taken into consideration in the VMT evaluation.

As summarized in Table 3, the VMT Calculator estimates that the Refined Project would generate 3,210 total household VMT. Based on the VMT Calculator population assumptions, the Refined Project would generate an average household VMT per capita of 4.3, which would not exceed the significance thresholds for the Central APC (6.0 household VMT per capita). Therefore, the Refined Project would not result in a significant household VMT impact, and no mitigation measures would be required. The detailed output from the VMT Calculator is provided in Attachment B.

Cumulative VMT Analysis. As detailed in the TAG, for projects that do not demonstrate a project impact by applying an efficiency-based impact threshold (i.e., household VMT per capita, work VMT per employee) in the project impact analysis, a less than significant impact conclusion is sufficient in demonstrating there is no cumulative VMT impact, as those projects are already shown to align with the long-term VMT and greenhouse gas goals of *Connect SoCal – The 2024-2050 Regional Transportation Plan / Sustainable Communities Strategy* (Southern California Association of Governments, Adopted April 2024) (RTP/SCS). The Refined Project would not result in a significant VMT impact, as detailed above. Therefore, the Refined Project would result in a less than significant cumulative VMT impact. Furthermore, the Refined Project would further reduce single occupancy trips to the Project Site through design features that encourage a variety of transportation options. The Refined Project would also contribute to the productivity and use of the regional transportation system by providing employment near transit, consistent with the RTP/SCS goal of maximizing mobility and accessibility in the region.

Threshold T-2.2: Substantially Inducing Additional Automobile Travel Analysis

The intent of Threshold T-2.2 is to assess whether a transportation project would induce substantial VMT by increasing vehicular capacity on the roadway network, such as the addition of through traffic lanes on existing or new highways, including general purpose lanes, high-occupancy vehicle lanes, peak period lanes, auxiliary lanes, and lanes through grade-separated interchanges.

Consistent with the Original Project, the Refined Project is not a transportation project that would induce automobile travel. Therefore, further evaluation is not required, and the Refined Project would not result in a significant impact under Threshold T-2.2.

<u>Threshold T-3: Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use Analysis</u>

Threshold T-3 requires that a project undergo further evaluation if it proposes new driveways or new vehicle access points to the property from the public right-of-way (ROW) or modifications along the public ROW (i.e., street dedications) to determine if the geometric design features would substantially increase safety, operational, or capacity hazards.

<u>Refined Project Consistency</u>. Consistent with the Original Project, vehicular access to the Project Site under the Refined Project would be provided via Shatto Place, a designated Local Street in *Mobility Plan 2035, An Element of the General Plan* (LADCP, September 2016) (Mobility Plan). The proposed driveways are not located along a street designated as part of Mobility Plan's "mobility-enhanced networks". Thus, the Refined Project would not preclude or interfere with the implementation of future roadway improvements benefiting transit, pedestrians, or bicycles. Per Los Angeles Municipal Code Section 12.37.A.2, no dedication is required along the Project Site frontage on 6th Street given that the existing church building would remain. All other streets frontages along the Project Site currently meet the required street dedication widths. Primary pedestrian and bicycle access would be provided via separate entrances along Shatto Place. No additional access points are proposed as part of the Refined Project, and no unusual or new obstacles are presented in the design that would be considered hazardous to motorized vehicles, non-motorized vehicles, or pedestrians.

Based on the site plan review and design assumptions, the Refined Project does not present any geometric design hazards related to traffic movement, mobility, or pedestrian accessibility, and is considered less than significant.

Based on the updated Related Projects list detailed in Table 2 and illustrated in Figure 3, there are no Related Projects proposed with access points along the same block of the Project Site. Therefore, the Refined Project would not result in cumulative impacts that would substantially increase hazards due to geometric design features, including safety, operational, or capacity impacts.

<u>CEQA Freeway Safety Analysis</u>. The freeway safety analysis of California Department of Transportation facilities relates to the identification of potential safety impacts at freeway off-ramps as a result of increased traffic from development projects. US 101 southbound off-ramps to Vermont Avenue and Silverlake Boulevard are approximately one mile from the Refined Project Site, as shown in Figure 4. Based on the trip generation estimates and trip assignments detailed further below, the Refined Project would not add 25 or more peak hour trips to any freeway off-ramp and would be screened out from providing further freeway off-ramp queuing analysis, as detailed in Table 4. The Refined Project would not result in a significant safety impact, and no corrective measures at any freeway off-ramps would be required.

NON-CEQA TRANSPORTATION ANALYSIS

A non-CEQA operational transportation analysis of the Refined Project was conducted for informational purposes.

Trip Generation

As detailed in the Approved Transportation Study, the trip generation estimates for the Original Project were calculated using published rates from *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers [ITE], 2017). The Original Project was anticipated to generate 23 net new morning peak hour trips (-26 inbound, 49 outbound) and 109 net new afternoon peak hour trips (75 inbound, 34 outbound).

Refined Project Trip Generation. As shown in Table 5A, based on rates from *Trip Generation Manual, 10th Edition*, the Refined Project is estimated to generate 97 net new morning peak hour trips (-12 inbound, 109 outbound) and 177 afternoon peak hour trips (134 inbound, 43 outbound). Thus, the Refined Project would generate 74 more morning peak trips and 68 more afternoon peak hour trips than the Original Project

Since the approval of the Approved Transportation Study, ITE published refined trip rates based on updated survey data in *Trip Generation Manual, 11th Edition* (2021), which are detailed in Table 5B. To provide further information, trip generation estimates for the Refined Project were also developed based on rates from *Trip Generation Manual, 11th Edition.* As detailed in Table 5B, the Refined Project would generate 94 net new morning peak hour trips (-13 inbound, 107 outbound) and 167 net new afternoon peak hour trips (129 inbound, 38 outbound). Thus, based on rates from *Trip Generation Manual, 11th Edition,* the Refined Project would generate 71 more morning peak trips and 58 more afternoon peak hour trips than the Original Project.

The Refined Project trip generation estimates based on *Trip Generation Manual, 10th Edition* rates would result in more total morning and afternoon peak hour trips when compared to the trip estimates based on *Trip Generation Manual, 11th Edition*. Therefore, further evaluation of operational conditions with the addition of Refined Project trips based on *Trip Generation Manual, 10th Edition* was conducted for informational purposes only, detailed below.

The Refined Project trip generation estimates summarized in Table 5A and the trip distribution patterns detailed in Figure 5 were used to assign the Refined Project-generated traffic through the adjacent and nearby intersections. For conservative analysis, all Refined Project trips were assumed to utilize one driveway. The resulting net Refined Project-only traffic volumes during typical weekday morning and afternoon peak hours are illustrated in Figure 6.

Pedestrian, Bicycle, and Transit Assessment

The TAG indicates that the pedestrian, bicycle, and transit facilities assessment is intended to determine a project's potential effect on facilities in the vicinity of the project. The deficiencies could be physical (through removal, modification, or degradation of facilities) or demand-based (by adding pedestrian or bicycle demand to inadequate facilities).

Consistent with the Original Project, the Refined Project would implement the identified MMs TRAF-1 through TRAF-5 to reduce potential construction-related traffic and safety constraints in the immediate area that could affect pedestrians, bicyclists, and transit users. Furthermore, the Refined Project would provide funding for crossing guards at the adjacent intersection of Shatto Place & 6th Street during sidewalk closures during the Project's construction period. This would assist safe crossings for pedestrians and students of Young Oak Kim Academy, which is located diagonally opposite from the Project Site. As such, the Refined Project would not cause degradation of existing pedestrian facilities or result in the deterioration of any existing bicycle facilities or transit facilities. The Refined Project pedestrian improvements would not preclude or interfere with the implementation of any future roadway improvements benefiting transit, pedestrians, or bicycles. The potential increase in pedestrian and bicycle volume resulting from the Refined Project would not warrant the installation of additional pedestrian facilities. The Study Area is well-served by transit and can accommodate the Refined Project's transit trips without placing a significant strain on capacity.

Operational Evaluation

In accordance with the TAG, the intersection operational evaluation was conducted using the *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016) methodology, which was implemented using Synchro software to analyze intersection LOS operating conditions. Intersection operations were evaluated under Existing Conditions (Year 2024) and Future Conditions (Year 2029), the anticipated operational year for the Refined Project. As summarized below, consistent with the Original Project, the Refined Project would not result in adverse increases in delay or queuing. Thus, no corrective measures were required.

Existing with Refined Project Conditions. Intersection turning movement counts at the adjacent and nearby intersections were collected during typical operating conditions (i.e., when local schools are in session, businesses in full operation, full lane operations, etc.) To this end, a mix of historical counts were utilized and adjusted to represent Existing Conditions in Year 2024. The existing peak hour traffic volumes are illustrated in Figure 7. The traffic count worksheets are provided in Attachment C.

The Refined Project-only morning and afternoon peak hour traffic volumes shown in Figure 6 were added to the Existing Conditions morning and afternoon peak hour traffic volumes. The resulting volumes are illustrated in Figure 8 and represent Existing with Refined Project Conditions.

Table 6 summarizes the weekday morning and afternoon peak hour LOS results at the adjacent and nearby intersections under Existing Conditions and Existing with Refined Project Conditions. As detailed, all intersections would operate at LOS D or better during both the morning and afternoon peak hours under Existing with Refined Project Conditions. Consistent with the Original Project, the Refined Project would not worsen the operating conditions at any intersection from acceptable LOS conditions (i.e., LOS D or better) to unacceptable LOS conditions (i.e., LOS E or F). The LOS analysis worksheets are provided in Attachment D.

Future with Refined Project Conditions. The Future Conditions analysis was updated to reflect Year 2029 conditions to correspond to the anticipated buildout year of the Refined Project. Consistent with the Approved Transportation Study, the Year 2029 future background traffic conditions account for both an ambient growth of 1% per year compounded annually and Related Projects. This ambient growth factor conservatively accounts for increases in traffic due to regional growth and development outside the immediate Project area, as well as traffic generated by ongoing or entitled projects near or within the Study Area (i.e., Related Projects).

The Related Projects volumes detailed in Figure 9 were added to the Existing Conditions traffic volumes with ambient growth through the projected buildout Year 2029 and represent the Future without Project Conditions. The Future without Project Conditions traffic volumes at the study intersections are shown in Figure 10. The Refined Project-only morning and afternoon peak hour traffic volumes shown in Figure 5, were added to the Future without Project Conditions traffic volumes. The resulting volumes are illustrated in Figure 11 and represent Future with Refined Project Conditions.

Table 7 summarizes the weekday morning and afternoon peak hour LOS results at the adjacent and nearby intersections under Future without Project Conditions and Future with Refined Project Conditions. As detailed, two intersections would operate at LOS B or better during both the morning and afternoon peak hours under Future with Refined Project Conditions. The remaining intersection of Vermont Avenue & 6th Street is anticipated to operate at LOS E during both the analyzed peak hours under Future with Refined Project Conditions. Consistent with the Original Project, the Refined Project would not worsen the operating conditions at any intersection from acceptable LOS conditions (i.e., LOS D or better) to unacceptable LOS conditions (i.e., LOS E or F). The LOS analysis worksheets are provided in Attachment D.

Queuing Analysis. The vehicle queue lengths at the study intersections and driveways were also analyzed based on the resulting 95th percentile queues estimated using Synchro software. Based on the estimated traffic volumes and configuration of the proposed driveways, queuing would not extend as far as 5th Street or 6th Street and would not significantly affect through-traffic movements along Shatto Place. Consistent with the findings of the Approved Transportation Study, the proposed driveways would be adequate to serve the demand of the Project Site and would not result in internal stacking that would spill into City arterials.

Residential Street Cut-Through Analysis

The objective of the residential street cut-through analysis is to determine potential increases in average daily traffic volumes on designated Local Streets, as classified in the City's General Plan, that can be identified as cut-through trips generated by a project that can adversely affect the character and function of those streets.

Consistent with the Original Project, the net daily trips generated by the Refined Project are not projected to lead to trip diversion to parallel routes along residential Local Streets, nor is the Refined Project projected to add a substantial amount of automobile traffic to congested Arterial Streets that could potentially cause a shift to residential Local Streets, nor is there a nearby residential Local Street that provides a viable alternative route to the Project Site. Thus, the addition of Refined Project trips would not adversely affect any residential Local Streets.

Project Construction Assessment

The construction analysis relates to the temporary effects that may result from the construction activities associated with the Project and was conducted in accordance with Section 3.4 of the TAG.

Under the Original Project, construction would take place over a period of approximately 26 months and approximately 56,000 cubic yards of material would be excavated and removed.

Additionally, a maximum of 64 daily haul truck trips and 12 daily delivery truck trips were forecasted to occur during the excavation period and a maximum of 316 daily construction workers and 304 daily delivery truck trips were estimated on a peak day during the building construction subphase.

Under the Refined Project, construction would occur over a period of approximately 32 months and approximately 43,849 cubic yards of material would be excavated and removed. The Refined Project would submit for approval an Application for Review of Import – Export with the Los Angeles Department of Building and Safety. Based on the anticipated haul route, loaded trucks would travel south on Shatto Place, west on 6th Street, north on Vermont Avenue to the Hollywood Freeway (US 101) South, to Interstate 10 (I-10) East, to Interstate 605 (I-605) North, exiting at Live Oak Avenue to the Hanson disposal site. Empty trucks would travel west on Live Oak Avenue to I-605 South, to I-10 West, to US 101 North, exiting at Vermont Avenue and traveling south on Vermont Avenue, east on 6th Street, and north on Shatto Place to the Project Site.

All other construction-related information under the Original Project would remain unchanged under the Refined Project, including maximum truck trip and construction worker trip forecasts, hours of construction activity, and any temporary closures of the parking lane on Shatto Place for intermittent construction staging and/or unloading. With implementation of the Construction Management Plan, it is anticipated that almost all haul truck activity and construction worker trips to and from the Project Site would occur outside of the morning and afternoon commuter peak hours. Consistent with the Original Project, construction activity for the Refined Project is not expected to create hazards for roadway travelers, bus riders, or parkers.

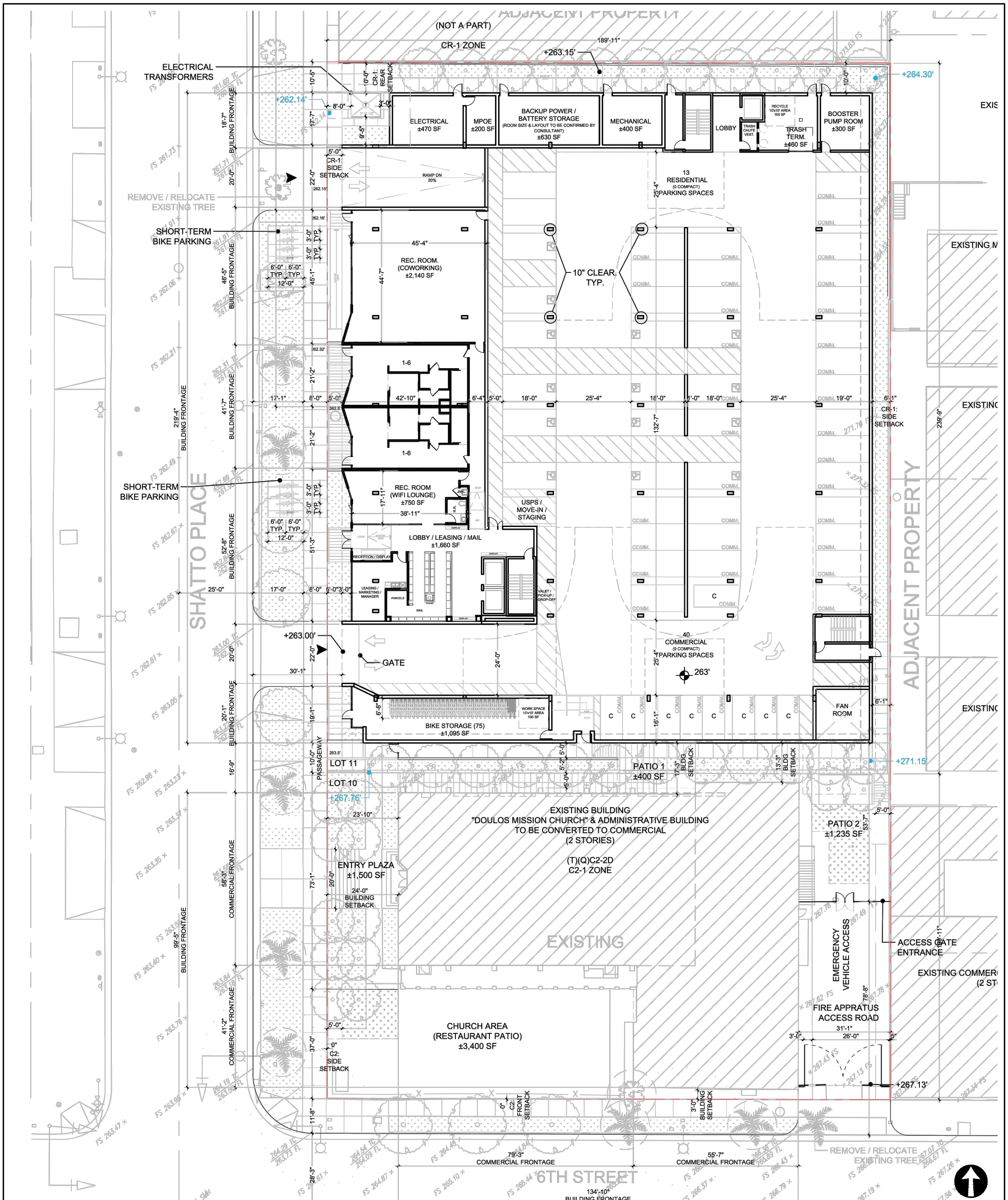
Construction Management Plan (MM TRAF-1). Consistent with the Original Project, a detailed Construction Management Plan, including street closure information, a detour plan, and a staging plan, would be prepared and submitted to the City for review and approval prior to commencing construction. The Construction Management Plan would formalize how construction would be carried out and identify specific actions that would be required to reduce effects on the surrounding community and would be based on the nature and timing of the specific construction activities and other projects in the vicinity of the Project Site.

CONCLUSION

The Refined Project is consistent with the City's plans, programs, ordinances, and policies and would not generate significant VMT impacts nor geometric design hazard impacts. The Refined Project would continue to implement MMs TRAF-1 through TRAF-5. Therefore, no additional MMs would be required. Consistent with the findings of the Approved Transportation Study, the Refined Project would not result in any adverse operational conditions that would require further improvements.

Therefore, the conclusions and findings of this analysis are consistent with the findings of the approved SCEA and the Approved Transportation Study.

Gibson transportation consulting, inc.



Source: KTGY. October, 2024.

PROJECT SITE PLAN	FIGURE 1

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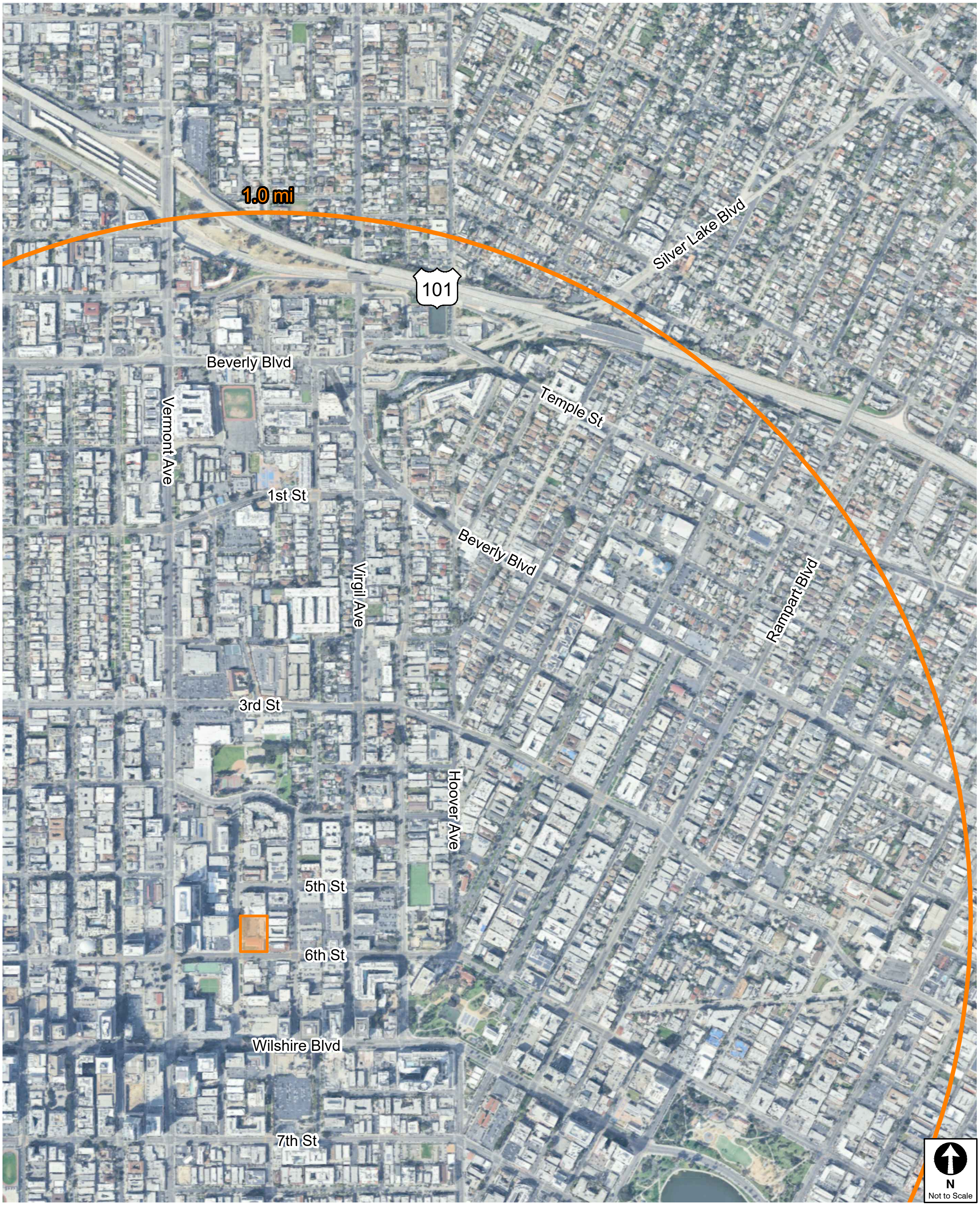
EXISTING TRANSIT SERVICE

FIGURE 2

Gibson transportation consulting, inc.

LOCATIONS OF RELATED PROJECTS

FIGURE 3



PROJECT SITE PROXIMITY TO FREEWAY RAMPS

FIGURE 4

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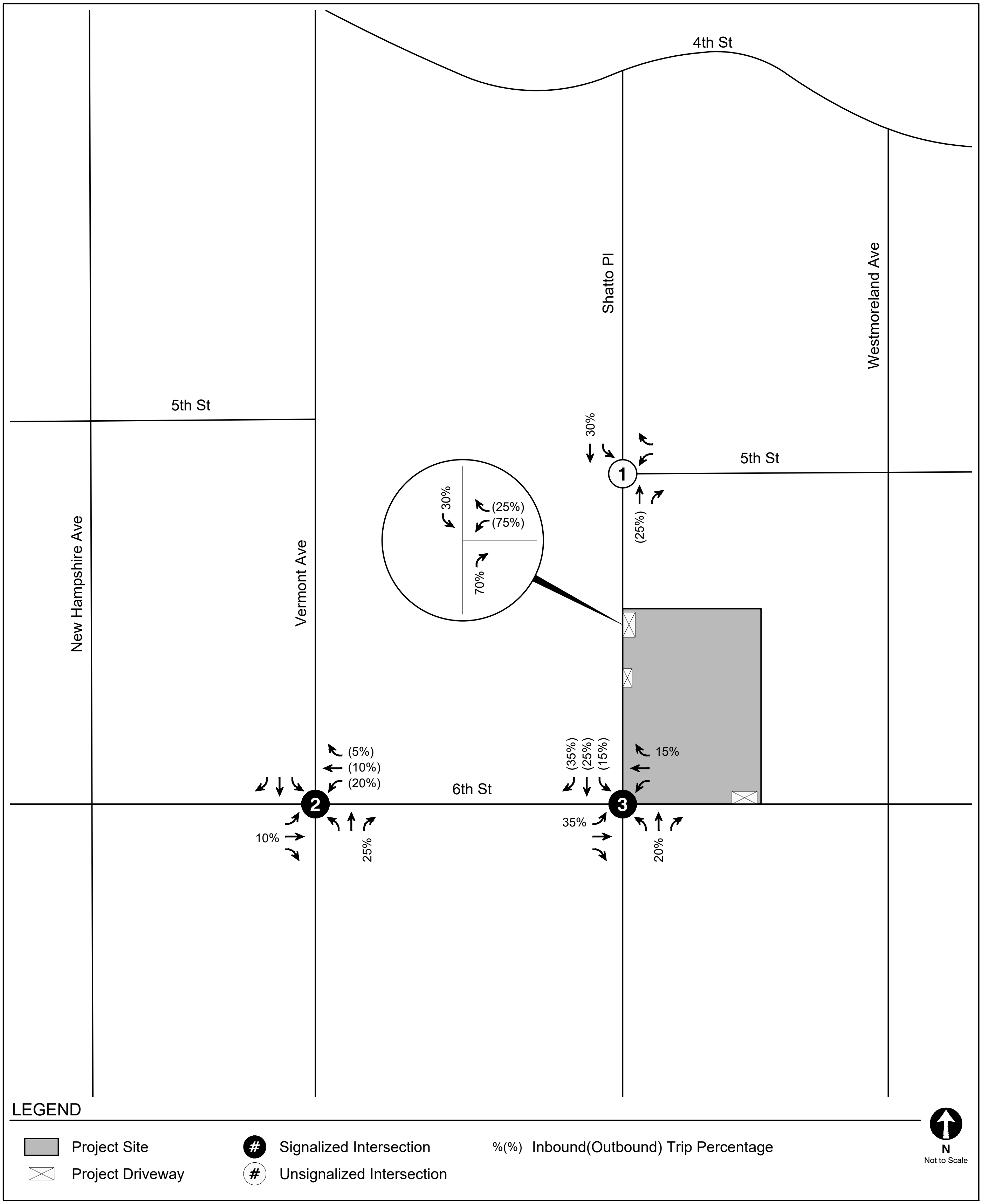
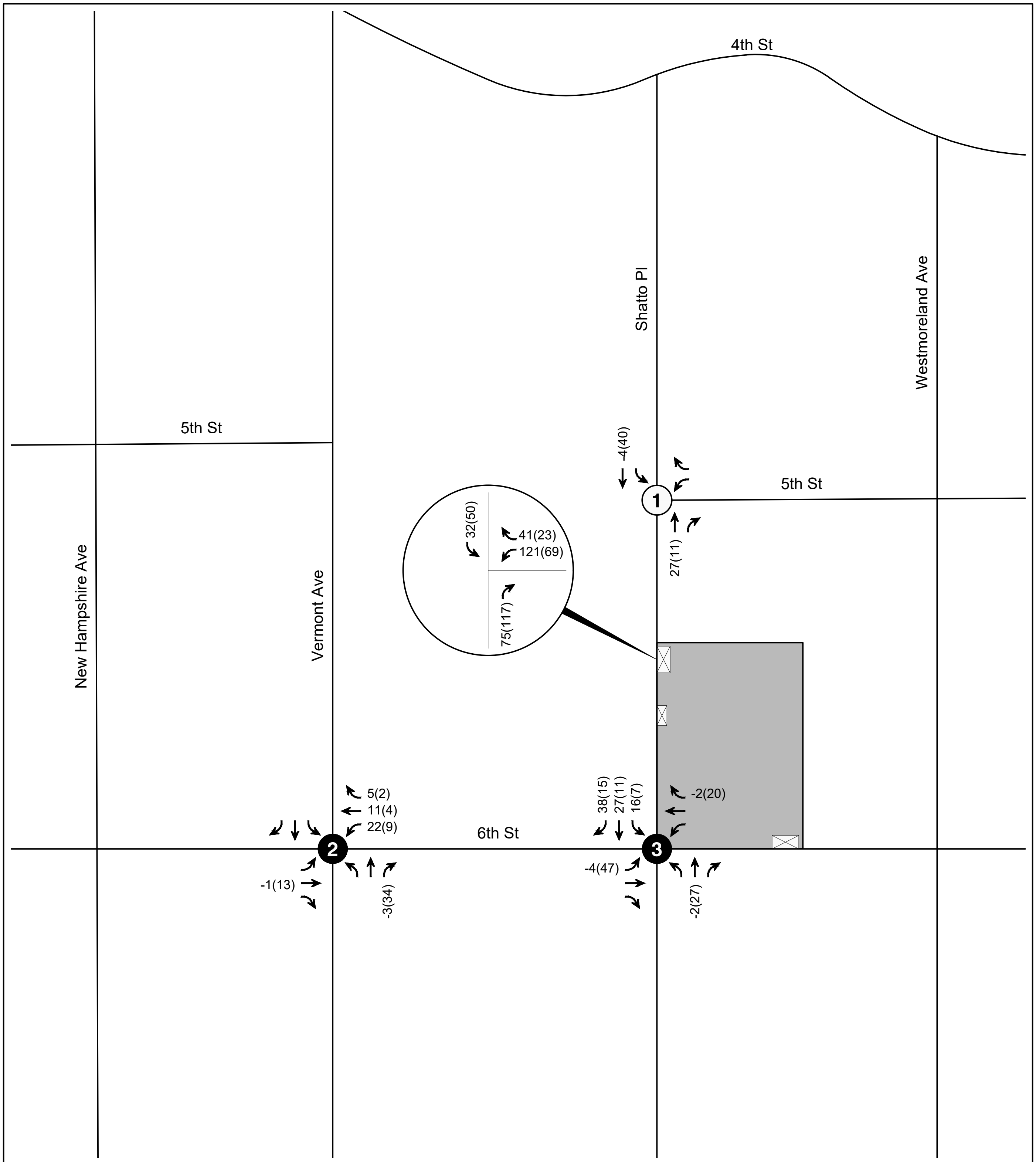


PROJECT TRIP DISTRIBUTION

FIGURE 5



LEGEND

Project Site

Project Driveway

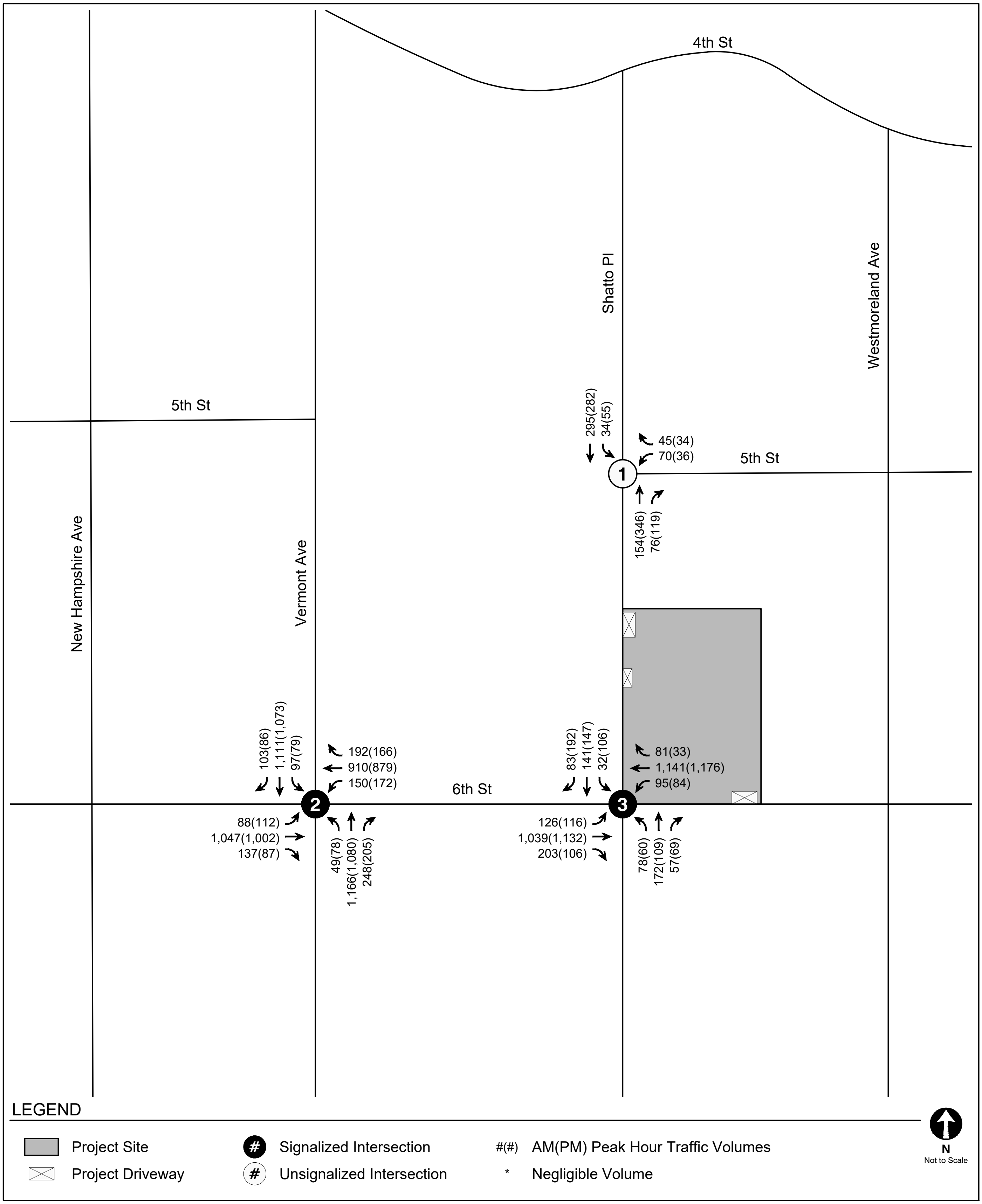
Signalized Intersection

Unsignalized Intersection

#(#) AM(PM) Peak Hour Traffic Volumes

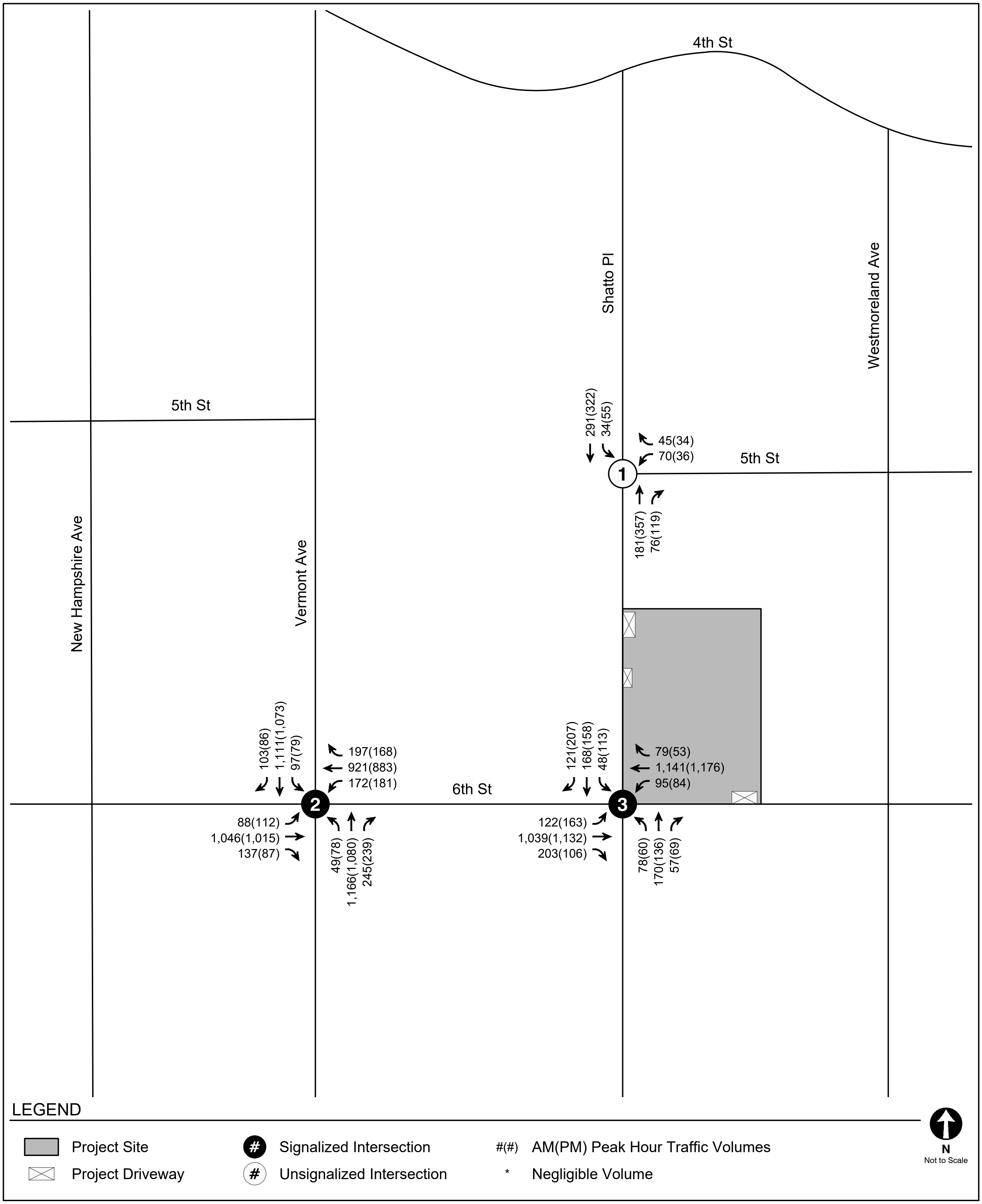
PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
6



EXISTING CONDITIONS (YEAR 2024)
PEAK HOUR TRAFFIC VOLUMES

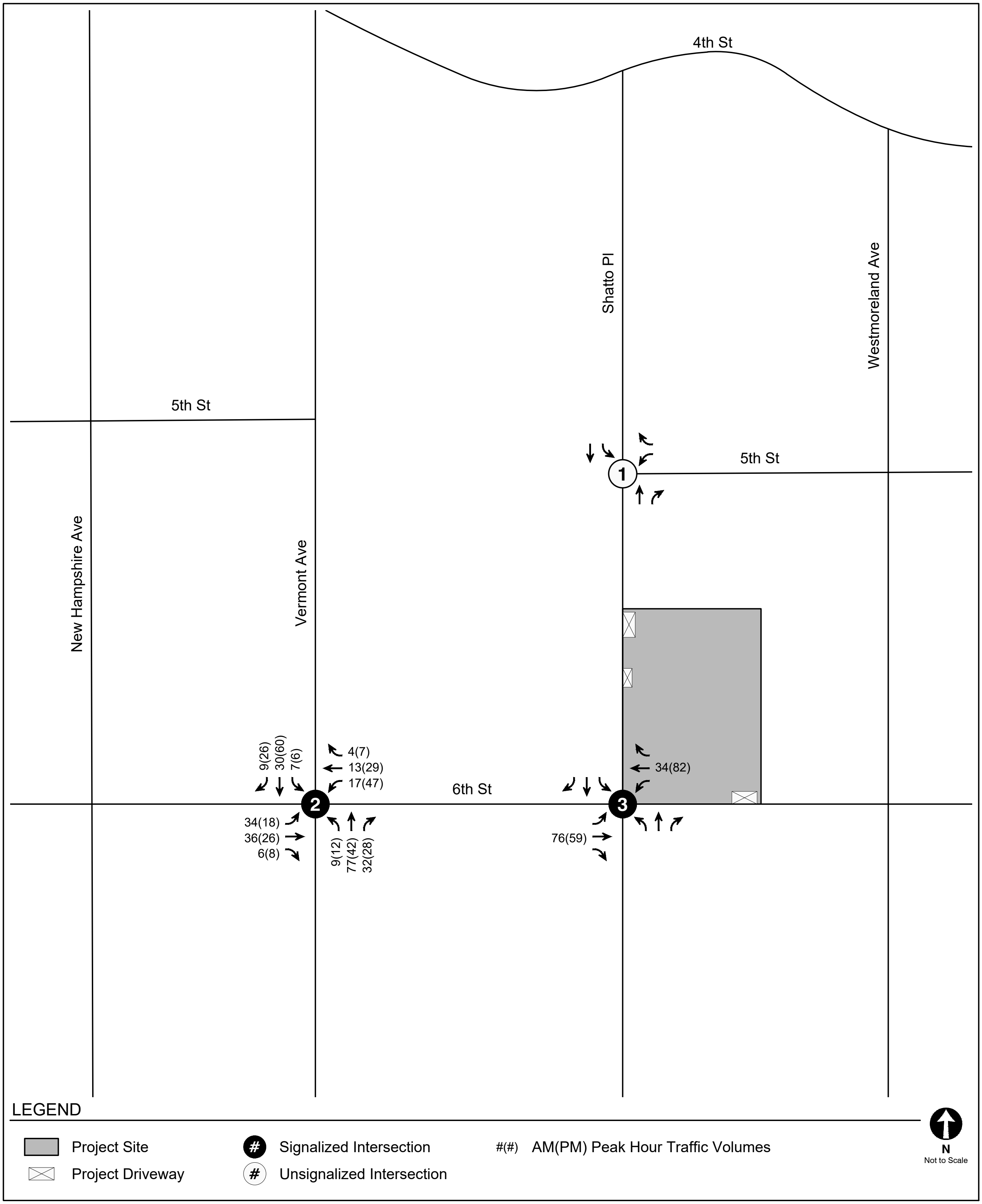
FIGURE 7



EXISTING WITH PROJECT CONDITIONS (YEAR 2024)
PEAK HOUR TRAFFIC VOLUMES

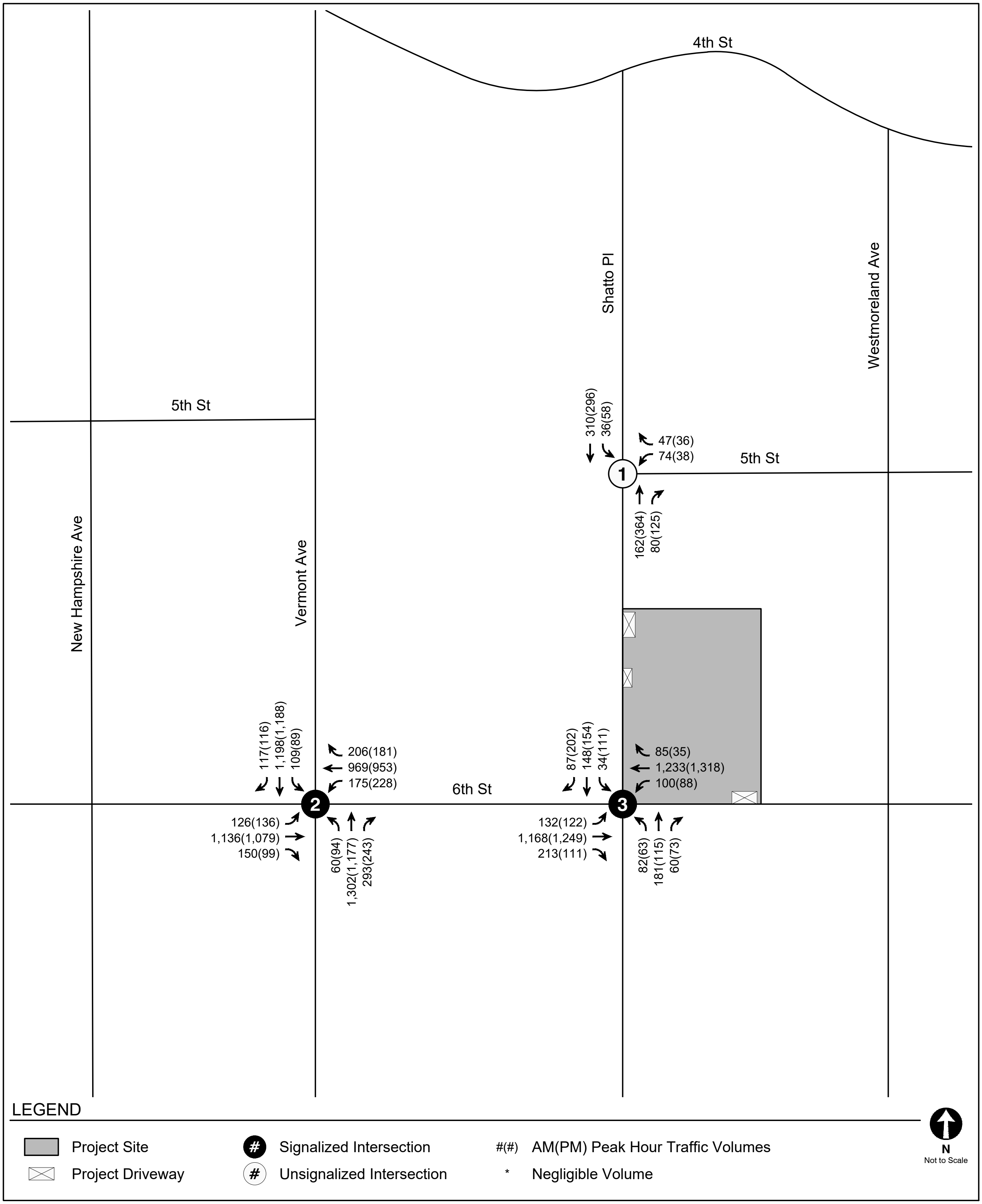
FIGURE
8

transportation consulting, inc.



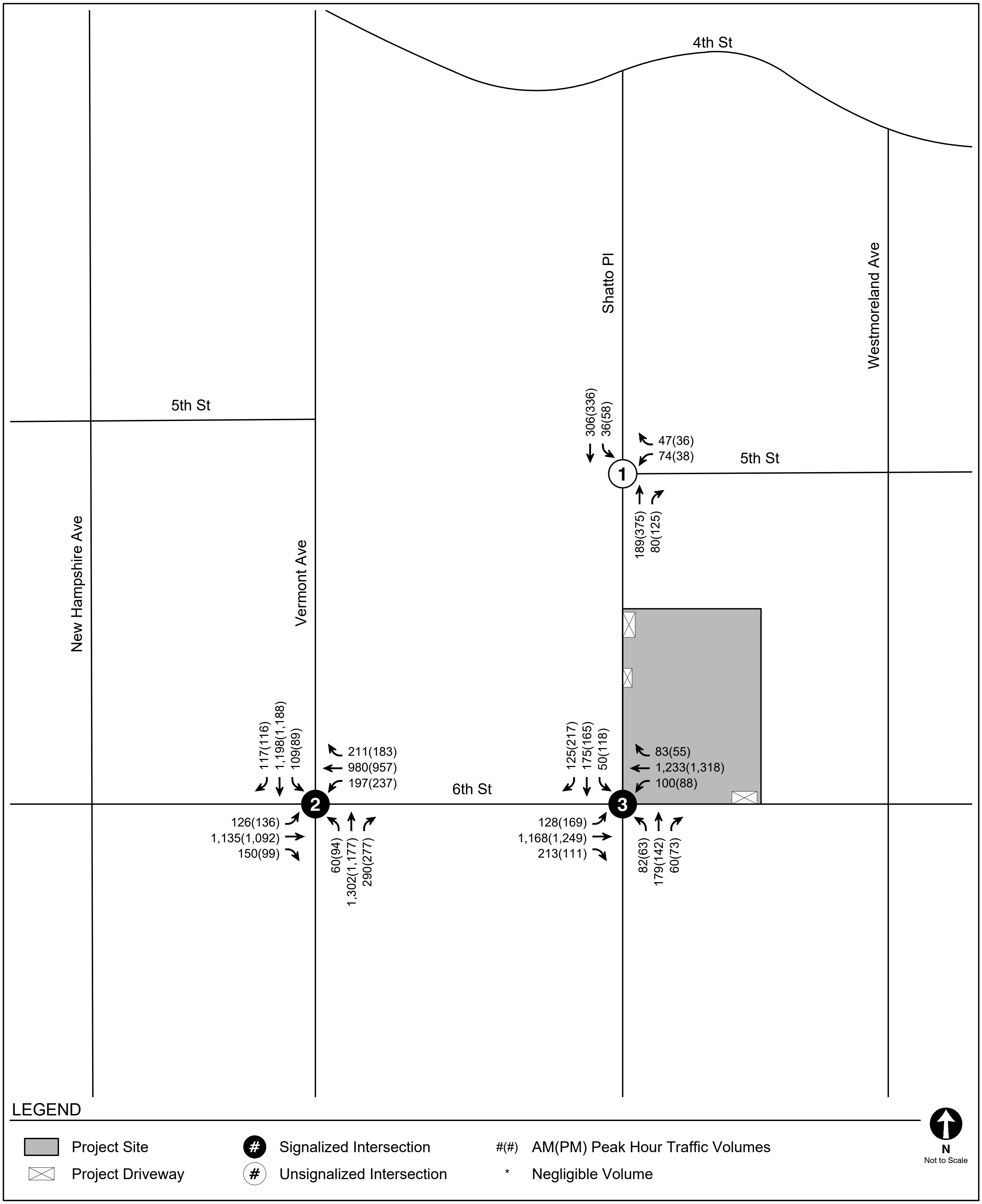
RELATED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
9



FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2029)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
10



FUTURE WITH PROJECT CONDITIONS (YEAR 2029)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
11

TABLE 1
EXISTING TRANSIT SERVICE

Provider, Route, and Service Area		Service Type	Hours of Operation in Study Area	Approximate Headway (minutes) [a]			
				Morning Peak Hour		Afternoon Peak Hour	
Metro Rail Service				**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
B Line	Downtown Los Angeles - North Hollywood	Rail	4:00 A.M. - 1:00 A.M.	6	6	6	6
D Line	Downtown Los Angeles - Western & Wilshire	Rail	4:00 A.M. - 1:00 A.M.	6	6	6	6
Metro Bus Service				**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
18	Downtown Los Angeles - Montebello/Wilshire/Western Station via 6th Street & Whittier Bl	Local	4:30 A.M. - 12:00 A.M.	7	7	7	7
20	Downtown Los Angeles - Downtown LA/Santa Monica via Wilshire Bl	Local	24 - Hour	11	10	9	10
204	Hollywood - Athens via Vermont Ave	Local	24 - Hour	10	10	10	10
720	LA/Commerce - Santa Monica via Wilshire Bl & Whittier Bl	Rapid	5:00 A.M - 2:00 A.M.	6	5	5	5
754	Hollywood - Athens via Vermont Ave	Rapid	5:30 A.M. - 9:30 P.M.	18	18	15	16
LADOT DASH Bus Service				**CCW**	**CW**	**CCW**	**CW**
WCK	Wilshire Center/Koreatown	Local	6:00 A.M. - 7:15 P.M.	25	25	25	25

Notes

Metro: Los Angeles County Metropolitan Transportation Authority

LADOT DASH: Los Angeles Department of Transportation Downtown Area Short Hop

[a] Headway information based on operating and ridership data from Metro for October 2024.

[a] Service routes and frequencies are current as of the time of publishing this study, including recent changes based on the Metro's NextGen Bus Plan.

TABLE 2
RELATED PROJECTS

No	Project	Address	Description	Size	Trip Generation [a] Daily	Morning Peak Hour In	Morning Peak Hour Out	Morning Peak Hour Total	Afternoon Peak Hour In	Afternoon Peak Hour Out	Afternoon Peak Hour Total
1	525 S Virgil MU	525 S Virgil Avenue	Apartments Affordable Housing Office	113 dus 19 dus 34,654 sf	604	(5)	37	32	34	6	40
2	CD10 La Fayette Park Pl Bridge Housing	625 S La Fayette Park Place	Supportive Housing	70 beds	89	4	5	9	5	4	9
3	Mixed-Use	2850 W 7th Street	Condominiums Retail	200 du 3,600 sf	1,057	20	72	92	72	42	114
4	Mixed-Use (Revised)	605 S Vermont Avenue	Apartments Museum	103 du 30,937 sf	755	17	39	56	42	37	79
5	Hotel & Restaurant	2965 W 6th Street	Hotel	99 rm	688	26	18	44	25	25	50
6	ExtraSpace Storage	621 S Catalina Street	Self-Storage	143,668 sf	221	18	6	24	7	20	27
7	616 S Westmoreland MU	616 S Westmoreland Avenue	Retail Restaurant Apartments	745 sf 2,360 sf 77 du	446	1	30	31	31	5	36
8	Wilshire Galleria Project	3240 W Wilshire Boulevard	Hotel Apartments Retail	162 rms 545 du 5,222 sf	1,353	15	173	188	89	23	112
9	Wilshire Gate Project (Mixed-Use)	631 S Vermont Avenue	Hotel Condominiums Office Retail	200 rms 250 du 49,227 sf 21,230 sf	2,599	95	95	190	115	120	235
10	Apartments	3350 W Wilshire Boulevard	Apartments	121 du	728	11	43	54	47	25	72
11	Apartments	427 S Berendo Street	Apartments	85 du	288	5	17	23	17	10	27
12	Apartments	2859 W Francis Avenue	Apartments	81 du	492	7	28	37	31	5	47
13 [b]	Residential	689 S Catalina Street	Apartments	61 du	365	5	23	28	22	12	34
14	Mixed-Use	730 S Vermont Avenue	Apartments Retail	80 du 1,457 sf	490	9	21	30	24	17	41
15	Mixed-Use	3020 Wilshire Boulevard	Apartments Retail	262 du 9,998 sf	1,544	25	65	90	75	57	132
16	Mixed-Use	3100 W Wilshire Boulevard	Retail Affordable Housing Apartments	7,370 sf 33 du 264 du	1,205	25	69	94	39	10	49
17	Fast Food W/ Drive-Through (Chik-fil-a)	3201 W Wilshire Boulevard	Restaurant	3,865 sf	461	27	21	48	27	26	53
18	Residential	3000 W Wilshire Boulevard	Retail Affordable Housing Apartments	867 sf 19 du 171 du	342	(20)	42	22	27	(10)	17
19	Residential	638 S Berendo Street	Apartments	163 du	479	22	42	64	42	32	74
20	Residential	639 S Commonwealth Avenue	Affordable Housing Apartments	15 du 142 du	465	22	16	38	14	19	33
21	Genevacho Neurological Medical Center	3160 W Geneva Street	Medical Office Senior Housing	141,164 sf 40 du	3,320	195	57	252	127	319	446
22	Residential	446 S Shatto Place	Apartments	163 du	479	22	42	64	42	32	74

***Infrastructure Projects* [b]**

No	Project	Extents	Description
1	Metro D Line Extension	Current terminus at Wilshire/Western Station to Westwood/Veterans Administration Hospital	A 9-mile extension of underground rail system from the current Wilshire/ Western Station and to provide seven new stations with anticipated operational year of 2027.

Notes:

[a] Related projects information and trip generation estimates provided by LADOT (March 2024), Department of City Planning, and recent studies in the area.

[b] Although construction of the related project may be partially or entirely complete, the project was not fully occupied at the time when traffic counts were conducted. Therefore, the related project was considered and listed to provide a more conservative analysis.

[c] Source: *Westside Subway Extension Final Environmental Impact Statement/Environmental Impact Report*, Los Angeles County Metropolitan Transportation Authority, United States Department of Transportation, and Federal Transit Administration, March 2012.

TABLE 3
VMT ANALYSIS SUMMARY

Project Information	**Refined Project**
Address	550 S. Shatto Place
Project Land Uses	**Size**
Multi-Family Housing	283 units
Affordable Housing	35 units
Co-Living Housing	--
Office	--
High-Turnover Restaurant	21,482 sf
Project Analysis [a]	
Area Planning Commission	Central
Travel Behavior Zone [b]	Urban
Maximum VMT Reduction [c]	*75%*
VMT Analysis [d]	
Daily Vehicle Trips	2,310
Daily VMT	14,676
Total Household VMT	3,210
Household VMT per Capita [e]	4.3
Impact Threshold	6.0
Significant Impact	**NO**
Total Work VMT	--
Work VMT per Employee [f]	--
Impact Threshold	7.6
Significant Impact	**NO**

Notes:
[a] Project Analysis based on the *City of Los Angeles VMT Calculator Version 1.5* (October 2024) output reports provided in Attachment B.
[b] "Urban" TBZs are characterized in *City of Los Angeles VMT Calculator Documentation* (LADOT and DCP, May 2020) as high-density neighborhoods characterized by multi-story buildings with a dense road network.
[c] The maximum allowable VMT reduction is based on the Project's designated TBZ.
[d] The Project includes several design features, such as bicycle parking and pedestrian network improvements, considered as TDM strategies to reduce the number of single occupancy vehicle trips. For the purposes of providing a conservative analysis, these design features were not taken into consideration in the VMT evaluation.
[e] Household VMT per Capita is based on the "home-based work production" trip types.
[f] Work VMT per Employee is based on the "home-based work attraction" trip types. Work VMT per Employee is not reported for projects in which the non-office commercial use is local-serving (i.e., small-scale non-office commercial components less than 50,000 sf) and is considered to have a negligible effect on VMT.

TABLE 4
FREEWAY OFF-RAMP SAFETY SCREENING ANALYSIS

Freeway Off-Ramp	Peak Hour	Proposed Project Trips	Meets Screening Criteria? [a]
US 101 [b]			
Southbound Off-ramp to Vermont Ave	AM PM	-1 13	NO NO
Southbound Off-ramp to Silver Lake Bl	AM PM	-2 20	NO NO
Southbound Off-ramp to Rampart Bl	AM PM	-1 13	NO NO
Northbound Off-ramp to Vermont Ave	AM PM	-1 13	NO NO
Northbound Off-ramp to Silver Lake Bl	AM PM	-2 20	NO NO
Northbound Off-ramp to Rampart Bl	AM PM	-1 13	NO NO

Notes:

[a] A transportation assessment for a development project must include further analysis of any freeway off-ramp where a project adds 25 or more peak hour trips.

[b] 10% of incoming Refined Project trips was assumed to utilize US 101 off-ramps to Vermont Avenue and Rampart Boulevard to travel to the Project Site and 15% of incoming Refined Project trips was assumed to utilize US 101 off-ramps to travel to Silver Lake Boulevard.

TABLE 5A
PROJECT TRIP GENERATION - ITE 10TH EDITION

Land Use	ITE Land Use	Rate or Size	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
Trip Generation Rates [a]								
Multi-Family Housing (Mid-Rise) [b]	221	per du	12%	88%	0.31	72%	28%	0.30
Affordable Housing	[c]	per du	37%	63%	0.49	56%	44%	0.35
Office [d]	710	per 1,000 sf	86%	14%	0.83	17%	83%	0.87
High-Turnover (Sit-Down) Restaurant	932	per 1,000 sf	55%	45%	9.94	62%	38%	9.77
Private School (K-12)	536	per student	61%	39%	0.80	43%	57%	0.17
Trip Generation Estimates								
Refined Project								
Multi-Family Housing (Mid-Rise)	221	283 du	11	77	88	61	24	85
Affordable Housing	[c]	35 du	6	11	17	7	5	12
High-Turnover Restaurant	932	21,482 sf	118	96	214	130	80	210
Internal Capture - 10% [e]			*(12)*	*(9)*	*(21)*	*(13)*	*(8)*	*(21)*
Transit/Walk-In Adjustment - 15% [f]			*(16)*	*(13)*	*(29)*	*(18)*	*(10)*	*(28)*
Pass-By Adjustment - 20% [g]			*(18)*	*(15)*	*(33)*	*(20)*	*(12)*	*(32)*
Total Refined Project Trips			***89***	***147***	***236***	***147***	***79***	***226***
Existing Uses to be Removed								
Office (514 Shatto Pl)	710	27,843 sf	20	3	23	4	20	24
Private School (K-12)	536	170 students	83	53	136	12	17	29
Transit/Walk-In Adjustment - 15% [f]			*(2)*	*(18)*	*(20)*	*(3)*	*(1)*	*(4)*
Total Existing Trips to be Removed			***101***	***38***	***139***	***13***	***36***	***49***
TOTAL NET NEW REFINED PROJECT TRIPS			**(12)**	**109**	**97**	**134**	**43**	**177**
TOTAL ANALYZED TRIPS IN APPROVED TRANSPORTATION ASSESSMENT			***-26***	***49***	***23***	***75***	***34***	***109***
TRIP DIFFERENCE			**14**	**60**	**74**	**59**	**9**	**68**

Notes:
du = dwelling unit; sf = square feet.
[a] Trip generation rates are from *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017) and are based on developments located in "General Urban/Suburban" area, unless otherwise noted.
[b] Morning and afternoon trip generation rates for multi-family housing (mid-rise) are based on local rates developed by LADOT for developments located in "Dense Multi-Use Urban" area as detailed in Table 3.3-1 of LADOT's *Transportation Assessment Guidelines* (July 2020). These rates are not subjected to transit/walk-in adjustments.
[c] Per LADOT's *Transportation Assessment Guidelines,* residential or mixed-use developments that include Affordable Housing Units are eligible to use a city specific trip generation rate based on vehicle trip count data collected at affordable housing in the City of Los Angeles in 2016. Rates were based on developments located inside a Transit Priority Area, as defined per Public Resources Code Section 21064.3. These rates are not subjected to any transit/walk-in adjustments.
[d] Morning and afternoon trip generation rates for general office are based on developments located in "Dense Multi-Use Urban" area as detailed in *Trip Generation Manual, 10th Edition.* These rates are not subjected to transit/walk-in adjustments.
[e] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development (e.g. residents visiting the restaurant uses) without using an off-site road system.
[f] Per LADOT's *Transportation Assessment Guidelines,* the Project Site is located approximately 650 feet walking distance from a transit station(Metro B/D Line Wilshire/Vermont Station), therefore a transit reduction is applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments.
[g] Per Attachment H of LADOT's *Transportation Assessment Guidelines*, a pass-by adjustment was applied to account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

TABLE 5B
PROJECT TRIP GENERATION - ITE 11TH EDITION

Land Use	ITE Land Use	Rate or Size	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
Trip Generation Rates [a]								
Multi-Family Housing (Mid-Rise) [b]	221	per du	14%	86%	0.31	74%	26%	0.30
Affordable Housing	[c]	per du	37%	63%	0.49	56%	44%	0.35
Office [d]	710	per 1,000 sf	87%	13%	0.84	16%	84%	0.87
High-Turnover (Sit-Down) Restaurant	932	per 1,000 sf	55%	45%	9.57	61%	39%	9.05
Private School (K-12)	532	per student	63%	37%	0.79	43%	57%	0.17
Trip Generation Estimates								
Refined Project								
Multi-Family Housing (Mid-Rise)	221	283 du	12	76	88	63	22	85
Affordable Housing	[c]	35 du	6	11	17	7	5	12
High-Turnover Restaurant	932	21,482 sf	113	93	206	118	76	194
Internal Capture - 10% [e]			*(11)*	*(10)*	*(21)*	*(12)*	*(7)*	*(19)*
Transit/Walk-In Adjustment - 15% [f]			*(15)*	*(13)*	*(28)*	*(16)*	*(10)*	*(26)*
Pass-By Adjustment - 20% [g]			*(17)*	*(14)*	*(31)*	*(18)*	*(12)*	*(30)*
Total Refined Project Trips			***88***	***143***	***231***	***142***	***74***	***216***
Existing Uses to be Removed								
Office (514 Shatto Pl)	710	27,843 sf	20	3	23	4	20	24
Private School (K-12)	532	170 students	84	50	134	12	17	29
Transit/Walk-In Adjustment - 15% [f]			*(3)*	*(17)*	*(20)*	*(3)*	*(1)*	*(4)*
Total Existing Trips to be Removed			***101***	***36***	***137***	***13***	***36***	***49***
TOTAL NET NEW REFINED PROJECT TRIPS			**(13)**	**107**	**94**	**129**	**38**	**167**
TOTAL ANALYZED TRIPS IN APPROVED TRANSPORTATION ASSESSMENT			***-26***	***49***	***23***	***75***	***34***	***109***
TRIP DIFFERENCE			**13**	**58**	**71**	**54**	**4**	**58**

Notes:
du = dwelling unit; sf = square feet.
[a] Trip generation rates are from *Trip Generation Manual, 11th Edition* (Institute of Transportation Engineers, 2021) and are based on developments located in "General Urban/Suburban" area, unless otherwise noted.
[b] Morning and afternoon trip generation rates for multi-family housing (mid-rise) are based on local rates developed by LADOT for developments located in "Dense Multi-Use Urban" area as detailed in Table 3.3-1 of LADOT's *Transportation Assessment Guidelines* (Updated August 2022). These rates are not subjected to transit/walk-in adjustments.
[c] Per LADOT's *Transportation Assessment Guidelines,* residential or mixed-use developments that include Affordable Housing Units are eligible to use a city specific trip generation rate based on vehicle trip count data collected at affordable housing in the City of Los Angeles in 2016. Rates were based on developments located inside a Transit Priority Area, as defined per Public Resources Code Section 21064.3. These rates are not subjected to any transit/walk-in adjustments.
[d] Morning and afternoon trip generation rates for general office are based on developments located in "Dense Multi-Use Urban" area as detailed in *Trip Generation Manual, 11th Edition.* These rates are not subjected to transit/walk-in adjustments.
[e] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development (e.g. residents visiting the restaurant uses) without using an off-site road system.
[f] Per LADOT's *Transportation Assessment Guidelines,* the Project Site is located approximately 650 feet walking distance from a transit station(Metro B/D Line Wilshire/Vermont Station), therefore a transit reduction is applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments.
[g] Per Attachment J of LADOT's *Transportation Assessment Guidelines*, a pass-by adjustment was applied to account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

TABLE 6
EXISTING WITH PROJECT CONDITIONS (YEAR 2024)
INTERSECTION LEVELS OF SERVICE ANALYSIS

No	Intersection	Peak Hour	Existing Conditions		Existing with Project Conditions	
			Delay	LOS	Delay	LOS
1. [a]	Shatto Place & 5th Street	AM PM	12.3 13.4	B B	12.5 13.8	B B
2.	Vermont Avenue & 6th Street	AM PM	39.3 36.5	D D	43.1 38.8	D D
3.	Shatto Place & 6th Street	AM PM	12.8 15.6	B B	14.6 17.4	B B

Notes:

[a] Intersection operates as a TWSC and is analyzed based on the HCM Unsignalized methodology. Reported results reflect the control delay for the worst-case approach, and does not account for traffic gaps created by adjacent traffic signals. The average intersection delay is provided in Attachment C.

TABLE 7
FUTURE WITH PROJECT CONDITIONS (YEAR 2029)
INTERSECTION LEVELS OF SERVICE ANALYSIS

No	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions	
			Delay	LOS	Delay	LOS
1. [a]	Shatto Place & 5th Street	AM PM	12.6 13.9	B B	12.8 14.2	B B
2.	Vermont Avenue & 6th Street	AM PM	56.6 56.8	E E	62.4 60.8	E E
3.	Shatto Place & 6th Street	AM PM	14.0 17.8	B B	15.9 21.2	B C

Notes:

[a] Intersection operates as a TWSC and is analyzed based on the HCM Unsignalized methodology. Reported results reflect the control delay for the worst-case approach, and does not account for traffic gaps created by adjacent traffic signals. The average intersection delay is provided in Attachment C.

Attachment A

Mitigation Measures & LADOT Assessment Letter

Mitigation Measures

<u>Source:</u> Excerpt from Section 5.17, Transportation, of the *Sustainable Communities Environmental Assessment (SCEA) for the 550 Shatto Place/Soul-Project* (ICF and Environmental Science Associates, May 2019) [Pages 5-221 to 5-222]

- *<u>MM TRAF-1</u>: The Applicant shall prepare a detailed Construction Management Plan that shall include, but not be limited to, the following elements, as appropriate:*
    - *Requiring workers and construction trucks to generally travel outside of the peak hours*
    - *Prohibition of construction worker parking on nearby residential streets*
    - *Temporary traffic control during all construction activities encroaching on public rights-of-way to improve traffic flow and safety on public roadways*
    - *Scheduling of construction activities to reduce the effect on traffic flow on surrounding arterial streets*
    - *** Funding to Young Oak Kim Academy to provide an adequate number of crossing guards on school days to assist the safe movement of pedestrians and students at the intersection of 6th Street & Shatto Place when the sidewalks may be closed for Project-related construction*
    - *Safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers as appropriate*
    - *Scheduling of construction-related deliveries so as to generally occur outside the commuter peak hours*
    - *Installation of appropriate traffic signs around the Project Site to ensure pedestrian, bicycle, and vehicle safety.*

- *<u>MM TRAF-2</u>: There shall be no staging or parking of construction vehicles, including vehicles to transport workers on any of the streets adjacent to the school.*

- *<u>MM TRAF-3</u>: LADBS shall assign specific haul route hours of operation based upon Young Oak Kim Academy's hours of operation.*

- *<u>MM TRAF-4</u>: Haul route scheduling shall be sequenced to minimize conflicts with pedestrians, school buses and cars at the arrival and dismissal times of the school day. Haul route trucks shall not be routed past the school during periods when school is in session especially when students are arriving or departing from the campus.*

- *<u>MM TRAF-5</u>: The Applicant shall plan construction and construction staging as to maintain pedestrian access on adjacent sidewalks throughout all construction phases. This requires the applicant to maintain adequate and safe pedestrian protection, including physical separation (including utilization of barriers such as K-Rails or scaffolding, etc.) from work space and vehicular traffic and overhead protection, due to sidewalk closure or blockage, at all times. Temporary pedestrian facilities shall be adjacent to the Project Site and provide safe, accessible routes that replicate as nearly as practical the most desirable characteristics of the existing facility. Covered walkways shall be provided where pedestrians are exposed to potential injury from falling objects. Applicant shall keep sidewalk open during construction until only when it is absolutely required to close or block sidewalk for construction staging. Sidewalk shall be reopened as soon as reasonably feasible taking construction and construction staging into account.*

** **<u>Source:</u>** Letter of Determination issued by the Los Angeles City Planning Commission on June 08, 2021 for CEQA: ENV-2018-3986-SCEA-REC1

FORM GEN. 160A (Rev. 1/82)

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

550 S. Shatto Pl
DOT Case No. CEN 18-46721

Date: October 18, 2018

To: Heather Bleemers, Senior City Planner
Department of City Planning

From: Wes Pringle, Transportation Engineer
Department of Transportation

Subject: **TRANSPORTATION STUDY ASSESSMENT FOR THE PROPOSED MIXED-USE DEVELOPMENT LOCATED AT 550 SOUTH SHATTO PLACE**

The Department of Transportation (DOT) has reviewed the transportation impact study prepared by Gibson Transportation Consulting, Inc dated October 2018, for the proposed mixed-use development project at 550 South Shatto Place. In order to evaluate the effects of the project's traffic on the available transportation infrastructure, the significance of the project's traffic impacts is measured in terms of change to the volume-to-capacity (V/C) ratio between the "future no project" and the "future with project" scenarios. This change in the V/C ratio is compared to DOT's established threshold standards to assess the project-related traffic impacts. Based on DOT's current traffic impact criteria[1], the transportation study included the detailed analysis of 15 signalized intersections and determined that none of these study intersections would be significantly impacted by project-related traffic. The results of the traffic analysis, which accounted for other known development projects in evaluating potential cumulative impacts and adequately evaluated the project's traffic impacts on the surrounding community, are summarized in **Attachment 1**.

DISCUSSION AND FINDINGS

A. Project Description

The Project proposes to construct a 27-level mixed-use building over subterranean parking. The Project would be comprised of up to 256 apartment units, including 29 affordable housing units, approximately 2,507 square feet (sf) of office space and up to approximately 12,800 sf of restaurant space. The Project would provide approximately 329 vehicular parking spaces in an on-site parking structure, including one at-grade level and four below-grade levels. The Project would also provide approximately 158 bicycle parking spaces, including 141 long-term and 17 short-term spaces. Vehicular access would be provided via one full-access driveway on Shatto Place. The project is expected to be completed by 2021.

B. Trip Generation

The proposed project is expected to generate approximately 1136 net new daily trips, 23

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[1] Per the DOT Traffic Study Policies and Procedures, a significant impact is identified as an increase in the Critical Movement Analysis (CMA) value, due to project-related traffic, of 0.01 or more when the final ("with project") Level of Service (LOS) is LOS E or F; an increase of 0.020 or more when the final LOS is LOS D; or an increase of 0.040 or more when the final LOS is LOS C.

net trips in the a.m. peak hour and 109 net new trips in the p.m. peak hour. These estimates were derived using trip generation rates from the Institute of Transportation Engineers (ITE) "Trip Generation Handbook, 10th Edition." A copy of the trip generation estimates table from the traffic study is attached and identified as **Attachment 2**.

C. Freeway Analysis

The traffic study included a freeway impact analysis that was prepared in accordance with the State-mandated Congestion Management Program (CMP) administered by the Los Angeles County Metropolitan Transportation Authority (MTA). According to this analysis, the project would not result in significant traffic impacts on any of the evaluated freeway mainline segments. To comply with the Freeway Analysis Agreement executed between Caltrans and DOT in December 2015, the study also included a screening analysis to determine if additional evaluation of freeway mainline and ramp segments was necessary beyond the CMP requirements. Exceeding one of the four screening criteria would require the applicant to work directly with Caltrans to prepare more detailed freeway analyses. However, the project did not meet or exceed any of the four thresholds defined in the agreement; therefore, no additional freeway analysis was required.

D. Construction Impacts

DOT recommends that a construction work site traffic control plan be submitted to DOT's Citywide Temporary Traffic Control Section or Permit Plan Review Section for review and approval prior to the start of any construction work. Refer to http://ladot.lacity.org/what-we-do/plan-review to determine which section to coordinate review of the work site traffic control plan. The plan should show the location of any roadway or sidewalk closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. DOT also recommends that all construction related traffic be restricted to off-peak hours to the extent feasible.

PROJECT REQUIREMENTS

A. Highway Dedication and Street Widening Requirements

On January 20, 2016, the City Council adopted the Mobility Plan 2035 which represents the new Mobility Element of the General Plan. A key feature of the updated plan is to revise street standards in an effort to provide a more enhanced balance between traffic flow and other important street functions including transit routes and stops, pedestrian environments, bicycle routes, building design anued site access, etc. Per the new Mobility Element: **Shatto Place** has been designated as Local Street-Standard which would require an 18-foot half-width roadway within a 30-foot half-width right-of-way. **6th Street** has been designated as Avenue II (Secondary Highway) which would require a 28-foot half-width roadway within a 43-foot half-width right-of-way.The applicant should check with BOE's Land Development Group to determine if there are any other applicable highway dedication, street widening and/or sidewalk requirements for this project.

B. Parking Analysis

The Project would provide approximately 329 vehicular parking spaces in an on-site parking structure, including one at-grade level and four below-grade levels. The Project would also provide approximately 158 bicycle parking spaces, including 141 long-term and 17 short-term spaces. Vehicular access would be provided via one full-access driveway on Shatto Place. The applicant should check with the Department of Building and Safety on the number of Code-required parking spaces needed for this project.

C. Site Access and Circulation Plan

The conceptual site plan is acceptable to DOT; however, the review of this study does not constitute approval of the driveway dimensions, access and circulation scheme. Those require separate review and approval and should be coordinated with DOT's Citywide Planning Coordination Section (201 N. Figueroa Street, 5th Floor, Station 3, @ 213-482-7024). In order to minimize and prevent last minute building design changes, the applicant should contact DOT early in the design process for driveway width and internal circulation requirements so that such traffic flow considerations are designed and incorporated early into the building and parking layout plans. All driveways should be Case 2 driveways and 30 feet and 16 feet wide for two-way and one-way operations, respectively. All delivery truck loading and unloading should take place on site with no vehicles having to back into the project via any of the project driveways. A copy of the site plan from the traffic study is included as **Attachment 3**.

D. Development Review Fees

An ordinance adding Section 19.15 to the Los Angeles Municipal Code relative to application fees paid to DOT for permit issuance activities was adopted by the Los Angeles City Council in 2009. This ordinance identifies specific fees for traffic study review, condition clearance, and permit issuance. The applicant shall comply with any applicable fees per this ordinance.

If you have any questions, please contact Russell Hasan at (213) 972-8628.

Attachments

N:\letters\CEN18-46721_550 S Shatto Pl Mixed-Use

c: Craig Bullock, Council District 13
Bhuvan Bajaj, Hollwood-Wilshire, DOT
Taimour Tanavoli, Citywide Planning Coordination Section, DOT
Bert Moklebust, Central District, BOE
Brian Hartshorn, Gibson Transportation Consulting

550 S. Shatto Pl.
CEN 18-46721

Attachment 1

TABLE 10
FUTURE WITH PROJECT CONDITIONS (YEAR 2021)
SIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions			
			V/C	LOS	V/C	LOS	Δ V/C	Impact
1.	Vermont Avenue & 3rd Street	A.M. P.M.	1.022 0.965	F E	1.024 0.971	F E	0.002 0.006	NO NO
2.	Virgil Avenue & 3rd Street	A.M. P.M.	0.819 0.875	D D	0.819 0.876	D D	0.000 0.001	NO NO
3.	Vermont Avenue & 4th Street	A.M. P.M.	0.781 0.775	C C	0.777 0.788	C C	-0.004 0.013	NO NO
4.	Shatto Place & 4th Street	A.M. P.M.	0.488 0.467	A A	0.489 0.487	A A	0.001 0.020	NO NO
5.	Virgil Avenue & 4th Street	A.M. P.M.	0.638 0.690	B B	0.639 0.693	B B	0.001 0.003	NO NO
6.	Normandie Avenue & 6th Street	A.M. P.M.	0.850 0.839	D D	0.849 0.840	D D	-0.001 0.001	NO NO
7.	Vermont Avenue & 6th Street	A.M. P.M.	0.994 0.989	E E	0.998 0.996	E E	0.004 0.007	NO NO
8.	Shatto Place & 6th Street	A.M. P.M.	0.652 0.716	B C	0.664 0.751	B C	0.012 0.035	NO NO
9.	Virgil Avenue & 6th Street	A.M. P.M.	0.654 0.697	B B	0.653 0.701	B C	-0.001 0.004	NO NO
10.	Rampart Boulevard & 6th Street	A.M. P.M.	0.933 1.026	E F	0.931 1.029	E F	-0.002 0.003	NO NO
11.	Alvarado Street & 6th Street	A.M. P.M.	0.894 0.830	D D	0.897 0.835	D D	0.003 0.005	NO NO
12.	Vermont Avenue & Wilshire Boulevard	A.M. P.M.	1.237 1.293	F F	1.243 1.296	F F	0.006 0.003	NO NO
13.	Shatto Place & Wilshire Boulevard	A.M. P.M.	0.608 0.537	B A	0.611 0.545	B A	0.003 0.008	NO NO
14.	Hoover Street & Wilshire Boulevard	A.M. P.M.	0.889 0.858	D D	0.891 0.859	D D	0.002 0.001	NO NO
15.	Vermont Avenue & 8th Street	A.M. P.M.	0.837 0.944	D E	0.835 0.946	D E	-0.002 0.002	NO NO

550 S. Shatto Pl.
CEN 18-46721

Attachment 2

TABLE 8
PROJECT TRIP GENERATION ESTIMATES

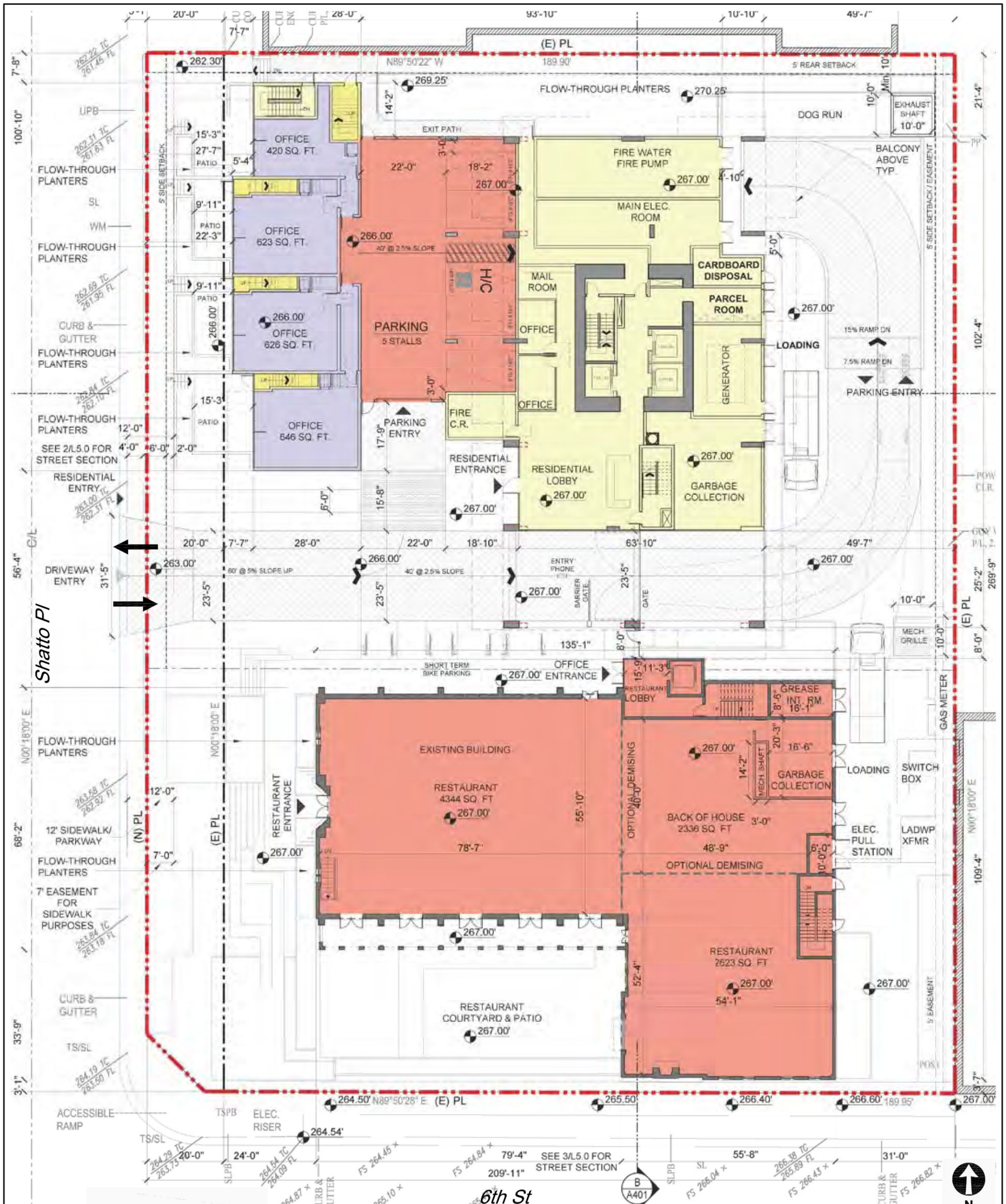
Land Use	ITE Land Use	Rate or Size	Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
Trip Generation Rates [a]									
Multi-Family Housing (High-Rise) [b]	222	per du	2.07	12%	88%	0.21	70%	30%	0.19
Office [c]	710	per 1,000 sf	9.74	86%	14%	0.83	17%	83%	0.87
High-Turnover (Sit-Down) Restaurant	932	per 1,000 sf	112.18	55%	45%	9.94	62%	38%	9.77
Fast-Food Restaurant without Drive-Through Window	933	per 1,000 sf	288.36	60%	40%	25.10	50%	50%	28.34
Private School (K-12)	536	per student	2.48	61%	39%	0.80	43%	57%	0.17
Trip Generation Estimates									
Proposed Project									
Multi-Family Housing (High-Rise)	222	256 du	530	6	48	54	34	15	49
Office	710	2,507 sf	24	2	0	2	0	2	2
High-Turnover Restaurant	932	11,300 sf	1,268	62	50	112	68	42	110
Internal Capture - 10% [d]			*(127)*	*(6)*	*(5)*	*(11)*	*(7)*	*(4)*	*(11)*
Transit/Walk-In Adjustment - 15% [e]			*(171)*	*(8)*	*(7)*	*(15)*	*(9)*	*(6)*	*(15)*
Pass-By Adjustment - 20% [f]			*(194)*	*(10)*	*(7)*	*(17)*	*(10)*	*(7)*	*(17)*
Fast-Food Restaurant without Drive-Through Window	933	1,500 sf	433	23	15	38	22	21	43
Internal Capture - 10% [d]			*(43)*	*(2)*	*(2)*	*(4)*	*(2)*	*(2)*	*(4)*
Transit/Walk-In Adjustment - 15% [e]			*(59)*	*(3)*	*(2)*	*(5)*	*(3)*	*(3)*	*(6)*
Pass-By Adjustment - 50% [f]			*(166)*	*(9)*	*(6)*	*(15)*	*(9)*	*(8)*	*(17)*
Total Proposed Trips			***1,495***	***55***	***84***	***139***	***84***	***50***	***134***
Existing Uses									
Private School (K-12)	536	170 students	422	83	53	136	12	17	29
Transit/Walk-In Adjustment - 15% [e]			*(63)*	*(2)*	*(18)*	*(20)*	*(3)*	*(1)*	*(4)*
Total Existing Trips			***359***	***81***	***35***	***116***	***9***	***16***	***25***
TOTAL NET NEW PROJECT TRIPS			**1,136**	**-26**	**49**	**23**	**75**	**34**	**109**

Notes:
du = dwelling unit; sf = square feet.
[a] Trip generation rates are from *Trip Generation, 10th Edition* (Institute of Transportation Engineers, 2017) and are based on developments located in "General Urban/Suburban" area, unless otherwise noted.
[b] Trip generation rates for multi-family housing (high-rise) are based on developments located in "Dense Multi-Use Urban" area as detailed in *Trip Generation, 10th Edition*. These rates are not subjected to any transit/walk-in adjustment.
[c] Trip generation rates for general office are based on developments located in "Dense Multi-Use Urban" area as detailed in *Trip Generation, 10th Edition*. Daily trip rate is based on developments located in "General Urban/Suburban" area as no vehicle-rate is available for "Dense Multi-Use Urban" location. These rates are not subjected to any transit/walk-in adjustment.
[d] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development (e.g. residents and employees visiting the restaurant uses) without using an off-site road system.
[e] Per LADOT's *Transportation Impact Study Guidelines* (LADOT, 2016), the Project Site is located approximately 650 feet walking distance from a transit station (Metro Red/Purple Line Wilshire/Vermont Station), therefore a transit reduction is applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments.
[f] Per *Transportation Impact Study Guidelines*, a pass-by adjustment was applied to account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

550 S. Shatto Pl.
CEN 18-46721

Attachment 3

Gibson transportation consulting, inc.



Source: Chris Dikeakos Architectural Corp, July 2018

SITE PLAN	FIGURE 1

Attachment B

VMT Calculator Worksheets

CITY OF LOS ANGELES VMT CALCULATOR Version 1.5

Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

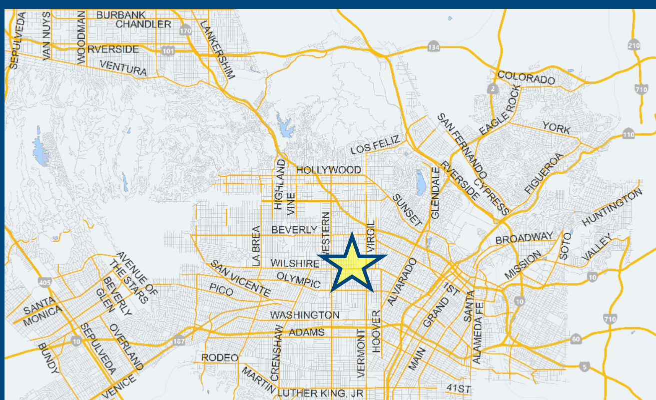
Project Information

Project: 514-550 Shatto Place

Scenario:

Address: 550 S SHATTO PL, 90020

WWW



Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit station?

○ Yes ○ No

Existing Land Use

Land Use Type	Value	Unit
School | Private School (K-12)	170	Students
Office | General Office	15.179	ksf
School | Private School (K-12)	170	Students

☐ Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type	Value	Unit
Housing | Affordable Housing - Family	35	DU
Retail | High-Turnover Sit-Down Restaurant	21.482	ksf
Housing | Multi-Family	283	DU
Housing | Affordable Housing - Family	35	DU

☐ Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed Project
342 Daily Vehicle Trips	2,310 Daily Vehicle Trips
2,024 Daily VMT	14,676 Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	1,968 Net Daily Trips
The net increase in daily VMT ≤ 0	12,652 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	21.482 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

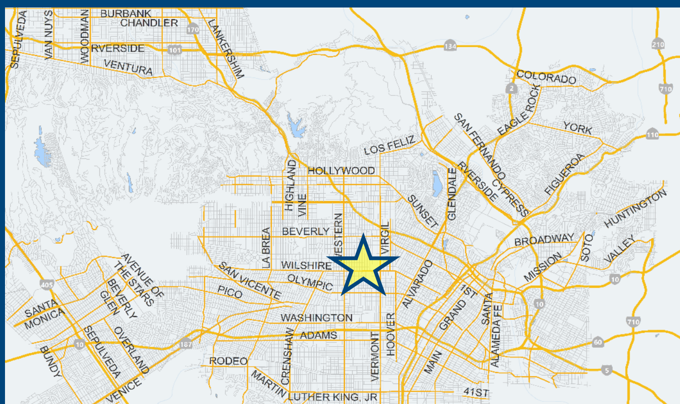
CITY OF LOS ANGELES VMT CALCULATOR Version 1.5

Project Information

Project: 514-550 Shatto Place

Scenario:

Address: 550 S SHATTO PL, 90020



Proposed Project Land Use Type | **Value** | **Unit**

Proposed Project Land Use Type	Value	Unit
Retail | High-Turnover Sit-Down Restaurant	21.482	ksf
Housing | Multi-Family	283	DU
Housing | Affordable Housing - Family	35	DU

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**No**
Max Work Based TDM Achieved?	**No**	**No**

A Parking

Reduce Parking Supply
- 100 city code parking provision for the project site
- 74 actual parking provision for the project site
- ☐ Proposed Prj ☐ Mitigation

Unbundle Parking
- 175 monthly parking cost (dollar) for the project site
- ☐ Proposed Prj ☐ Mitigation

Parking Cash-Out
- 50 percent of employees eligible
- ☐ Proposed Prj ☐ Mitigation

Price Workplace Parking
- 6.00 daily parking charge (dollar)
- 50 percent of employees subject to priced parking
- ☐ Proposed Prj ☐ Mitigation

Residential Area Parking Permits
- 200 cost (dollar) of annual permit
- ☐ Proposed Prj ☐ Mitigation

B Transit

C Education & Encouragement

D Commute Trip Reductions

E Shared Mobility

F Bicycle Infrastructure

G Neighborhood Enhancement

Analysis Results

Proposed Project	With Mitigation
2,310 Daily Vehicle Trips	**2,310** Daily Vehicle Trips
14,676 Daily VMT	**14,676** Daily VMT
4.3 Household VMT per Capita	**4.3** Household VMT per Capita
N/A Work VMT per Employee	**N/A** Work VMT per Employee

Significant VMT Impact?

Proposed Project	With Mitigation
Household: No Threshold = 6.0 15% Below APC	**Household: No** Threshold = 6.0 15% Below APC
Work: N/A Threshold = 7.6 15% Below APC	**Work: N/A** Threshold = 7.6 15% Below APC

Measuring the Miles

10/29/2024

Project Information

Land Use Type		Value	Units
Housing	*Single Family*	*0*	*DU*
	Multi Family	283	DU
	Townhouse	*0*	*DU*
	Hotel	*0*	*Rooms*
	Motel	*0*	*Rooms*
Affordable Housing	Family	35	DU
	Senior	*0*	*DU*
	Special Needs	*0*	*DU*
	Permanent Supportive	*0*	*DU*
Retail	*General Retail*	*0.000*	*ksf*
	Furniture Store	*0.000*	*ksf*
	Pharmacy/Drugstore	*0.000*	*ksf*
	Supermarket	*0.000*	*ksf*
	Bank	*0.000*	*ksf*
	Health Club	*0.000*	*ksf*
	High-Turnover Sit-Down Restaurant	21.482	ksf
	Fast-Food Restaurant	*0.000*	*ksf*
	Quality Restaurant	*0.000*	*ksf*
	Auto Repair	*0.000*	*ksf*
	Home Improvement	*0.000*	*ksf*
	Free-Standing Discount	*0.000*	*ksf*
	Movie Theater	*0*	*Seats*
Office	*General Office*	*0.000*	*ksf*
	Medical Office	*0.000*	*ksf*
Industrial	*Light Industrial*	*0.000*	*ksf*
	Manufacturing	*0.000*	*ksf*
	Warehousing/Self-Storage	*0.000*	*ksf*
School	*University*	*0*	*Students*
	High School	*0*	*Students*
	Middle School	*0*	*Students*
	Elementary	*0*	*Students*
	Private School (K-12)	*0*	*Students*

Other	*0*	*Trips*

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: October 29, 2024
Project Name: 514-550 Shatto Place
Project Scenario:
Project Address: 550 S SHATTO PL, 90020

Version 1.5

Analysis Results

Total Employees: 86
Total Population: 748

Proposed Project		*With Mitigation*	
2,310	**Daily Vehicle Trips**	**2,310**	**Daily Vehicle Trips**
14,676	**Daily VMT**	**14,676**	**Daily VMT**
4.3	**Household VMT per Capita**	**4.3**	**Household VMT per Capita**
N/A	**Work VMT per Employee**	**N/A**	**Work VMT per Employee**

Significant VMT Impact?

APC: Central

Impact Threshold: 15% Below APC Average
Household = 6.0
Work = 7.6

Proposed Project		*With Mitigation*	
VMT Threshold	**Impact**	**VMT Threshold**	**Impact**
Household > 6.0	No	Household > 6.0	No
Work > 7.6	N/A	Work > 7.6	N/A

TDM Strategy Inputs

Strategy Type		Description	Proposed Project	Mitigations
Parking	*Reduce parking supply*	*City code parking provision (spaces)*	*0*	*0*
		Actual parking provision (spaces)	*0*	*0*
	Unbundle parking	*Monthly cost for parking ($)*	*$0*	*$0*
	Parking cash-out	*Employees eligible (%)*	*0%*	*0%*
	Price workplace parking	*Daily parking charge ($)*	*$0.00*	*$0.00*
		Employees subject to priced parking (%)	*0%*	*0%*
	Residential area parking permits	*Cost of annual permit ($)*	*$0*	*$0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Transit	Reduce transit headways	Reduction in headways (increase in frequency) (%)	0%	0%
		Existing transit mode share (as a percent of total daily trips) (%)	0%	0%
		Lines within project site improved (<50%, >=50%)	0	0
	Implement neighborhood shuttle	Degree of implementation (low, medium, high)	0	0
		Employees and residents eligible (%)	0%	0%
	Transit subsidies	Employees and residents eligible (%)	0%	0%
		Amount of transit subsidy per passenger (daily equivalent) ($)	$0.00	$0.00
Education & Encouragement	Voluntary travel behavior change program	Employees and residents participating (%)	0%	0%
	Promotions and marketing	Employees and residents participating (%)	0%	0%

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Commute Trip Reductions	*Required commute trip reduction program*	*Employees participating (%)*	*0%*	*0%*
	Alternative Work Schedules and Telecommute	*Employees participating (%)*	*0%*	*0%*
		Type of program	*0*	*0*
	Employer sponsored vanpool or shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees eligible (%)	*0%*	*0%*
		Employer size (small, medium, large)	*0*	*0*
	Ride-share program	*Employees eligible (%)*	*0%*	*0%*
Shared Mobility	*Car share*	*Car share project setting (Urban, Suburban, All Other)*	*0*	*0*
	Bike share	*Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)*	*0*	*0*
	School carpool program	*Level of implementation (Low, Medium, High)*	*0*	*0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Bicycle Infrastructure	*Implement/Improve on-street bicycle facility*	*Provide bicycle facility along site (Yes/No)*	*0*	*0*
	Include Bike parking per LAMC	*Meets City Bike Parking Code (Yes/No)*	*0*	*0*
	Include secure bike parking and showers	*Includes indoor bike parking/lockers, showers, & repair station (Yes/No)*	*0*	*0*
Neighborhood Enhancement	*Traffic calming improvements*	*Streets with traffic calming improvements (%)*	*0%*	*0%*
		Intersections with traffic calming improvements (%)	*0%*	*0%*
	Pedestrian network improvements	*Included (within project and connecting off-site/within project only)*	*0*	*0*

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: October 29, 2024
Project Name: 514-550 Shatto Place
Project Scenario:
Project Address: 550 S SHATTO PL, 90020

Version 1.5

TDM Adjustments by Trip Purpose & Strategy

Place type: Urban

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Parking cash-out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Price workplace parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Residential area parking permits	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Transit	Reduce transit headways	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Transit subsidies	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Education & Encouragement	Voluntary travel behavior change program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Commute Trip Reductions	Required commute trip reduction program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Employer sponsored vanpool or shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Ride-share program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Shared Mobility	Car-share	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
	School carpool program	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Urban

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Bicycle Infrastructure	Implement/ Improve on-street bicycle facility	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Bicycle Infrastructure sections 1 - 3
	Include Bike parking per LAMC	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
	Include secure bike parking and showers	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Neighborhood Enhancement	Traffic calming improvements	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Neighborhood Enhancement
	Pedestrian network improvements	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
MAX. TDM EFFECT	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

= Minimum (X%, 1-[(1-A)*(1-B)...])
where X%=

PLACE TYPE MAX:	urban	75%
	compact infill	*40%*
	suburban center	*20%*
	suburban	*15%*

Note: (1-[(1-A)*(1-B)...]) reflects the dampened combined effectiveness of TDM Strategies (e.g., A, B,...). See the TDM Strategy Appendix (*Transportation Assessment Guidelines Attachment G)* for further discussion of dampening.

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: October 29, 2024
Project Name: 514-550 Shatto Place
Project Scenario:
Project Address: 550 S SHATTO PL, 90020

Version 1.5

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	283	-30.4%	197	7.5	2,123	1,478
Home Based Other Production	784	-57.5%	333	5.2	4,077	1,732
Non-Home Based Other Production	764	-8.1%	702	7.8	5,959	5,476
Home-Based Work Attraction	125	-34.4%	82	6.6	825	541
Home-Based Other Attraction	1,287	-57.2%	551	4.8	6,178	2,645
Non-Home Based Other Attraction	487	-8.6%	445	6.3	3,068	2,804

MXD Methodology with TDM Measures

	Proposed Project			*Project with Mitigation Measures*		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	0.0%	197	1,478	0.0%	197	1,478
Home Based Other Production	0.0%	333	1,732	0.0%	333	1,732
Non-Home Based Other Production	0.0%	702	5,476	0.0%	702	5,476
Home-Based Work Attraction	0.0%	82	541	0.0%	82	541
Home-Based Other Attraction	0.0%	551	2,645	0.0%	551	2,645
Non-Home Based Other Attraction	0.0%	445	2,804	0.0%	445	2,804

MXD VMT Methodology Per Capita & Per Employee

Total Population: 748
Total Employees: 86
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**3,210**	**3,210**
Total Home Based Work Attraction VMT	**541**	**541**
Total Home Based VMT Per Capita	**4.3**	**4.3**
Total Work Based VMT Per Employee	**N/A**	**N/A**

Attachment C

Traffic Volume Data

Turning Movement Count Report AM

Location ID: 3
North/South: Shatto Place
East/West: 5th Street

Date: 12/03/19
City: Los Angeles, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	54	1	4	0	8	3	18	2	0	0	0	90
7:15	0	62	3	8	0	8	6	33	0	0	0	0	120
7:30	0	64	7	6	0	13	9	31	0	0	0	0	130
7:45	0	60	7	14	0	15	5	33	0	0	0	0	134
8:00	0	73	10	14	0	17	16	28	0	0	0	0	158
8:15	0	73	8	9	0	22	42	49	0	0	0	0	203
8:30	0	36	9	11	0	14	14	21	0	0	0	0	105
8:45	0	37	10	15	0	8	26	27	0	0	0	0	123
9:00	0	36	14	17	0	9	15	37	1	0	0	0	129
9:15	0	24	11	6	0	16	19	29	0	0	0	0	105
9:30	0	26	14	22	0	13	13	35	0	0	0	0	123
9:45	0	31	14	22	0	14	14	38	0	0	0	0	133

Total Volume:	0	576	108	148	0	157	182	379	3	0	0	0	1553
Approach %	0%	84%	16%	49%	0%	51%	32%	67%	1%	0%	0%	0%	

Peak Hr Begin:	7:30												
PHV	0	270	32	43	0	67	72	141	0	0	0	0	625
PHF	0.910			0.887			0.585			0.000			0.770

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 3
North/South: Shatto Place
East/West: 5th Street

Date: 12/03/19
City: Los Angeles, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	0	29	5	4	0	4	21	48	0	0	0	0	111
15:15	0	18	4	7	0	7	7	40	0	0	0	0	83
15:30	0	21	5	5	0	5	12	38	0	0	0	0	86
15:45	0	25	2	3	0	11	12	51	1	0	0	0	105
16:00	0	27	11	5	0	5	18	55	0	0	0	0	121
16:15	0	37	12	6	0	9	23	72	2	0	0	0	161
16:30	0	35	12	11	0	9	17	89	0	0	0	0	173
16:45	0	36	6	10	0	10	26	56	0	0	0	0	144
17:00	0	44	22	5	0	6	47	80	0	0	0	0	204
17:15	0	23	12	10	0	8	20	56	1	0	0	0	130
17:30	0	27	15	3	0	11	25	59	0	0	0	0	140
17:45	0	27	7	3	0	8	11	59	1	0	0	0	116

Total Volume:	0	349	113	72	0	93	239	703	5	0	0	0	1574
Approach %	0%	76%	24%	44%	0%	56%	25%	74%	1%	0%	0%	0%	

Peak Hr Begin:	16:15												
PHV	0	152	52	32	0	34	113	297	2	0	0	0	682
PHF	0.773			0.825			0.811			0.000			0.836

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	2	0	0	0	0	0
7:15	0	0	0	0	1	0	0	0
7:30	5	0	6	0	1	0	0	0
7:45	2	0	6	0	0	0	0	0
8:00	0	0	3	1	1	0	0	0
8:15	1	0	9	0	2	0	0	0
8:30	4	0	13	0	3	0	0	0
8:45	2	0	12	0	5	0	0	0
9:00	8	0	18	0	2	0	0	0
9:15	5	0	20	0	1	0	0	0
9:30	6	0	38	0	2	0	0	0
9:45	9	0	37	0	1	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
15:00	2	0	0	0	0	0	0	0
15:15	4	0	4	0	0	0	0	0
15:30	0	0	0	0	2	0	0	0
15:45	0	0	0	0	0	0	0	0
16:00	4	0	12	0	1	0	0	0
16:15	1	0	10	0	0	0	0	0
16:30	3	0	3	0	1	0	0	0
16:45	2	0	16	0	0	0	0	0
17:00	1	0	13	0	1	0	0	0
17:15	0	0	2	0	2	0	0	0
17:30	2	0	9	1	2	0	0	0
17:45	1	0	4	1	0	0	0	0

City Of Los Angeles
Department Of Transportation
MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South Vermont Ave

East/West 6th St

Day: Wednesday Date: 09/26/2018 Weather: SUNNY

Hours: Chekrs: NDS

School Day: Yes I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	126	142	62	46
BIKES	70	59	39	31
BUSES	170	109	42	80

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	349	7.15	336	8.30	306	8.15	301	8.00
PM PK 15 MIN	337	16.00	310	16.00	298	17.30	297	17.30
AM PK HOUR	1351	7.00	1289	7.00	1185	7.30	1111	7.45
PM PK HOUR	1321	15.15	1182	15.30	1124	17.00	1051	17.00

NORTHBOUND Approach / **SOUTHBOUND Approach** / **TOTAL** / **XING S/L** / **XING N/L**

Hours	Lt	Th	Rt	Total	Hours	Lt	Th	Rt	Total	N-S	Ped	Sch	Ped	Sch
7-8	41	1140	170	1351	*7-8*	81	1131	77	1289	2640	77	0	78	4
8-9	57	908	236	1201	*8-9*	91	1028	110	1229	2430	98	4	94	14
9-10	69	1035	156	1260	*9-10*	80	1043	110	1233	2493	78	2	133	8
15-16	81	1007	226	1314	*15-16*	77	1016	69	1162	2476	118	18	113	29
16-17	82	997	173	1252	*16-17*	82	996	85	1163	2415	136	14	118	20
17-18	74	1008	167	1249	*17-18*	75	980	81	1136	2385	115	11	103	34
TOTAL	404	6095	1128	7627	TOTAL	486	6194	532	7212	14839	622	49	639	109

EASTBOUND Approach / **WESTBOUND Approach** / **TOTAL** / **XING W/L** / **XING E/L**

Hours	Lt	Th	Rt	Total	Hours	Lt	Th	Rt	Total	E-W	Ped	Sch	Ped	Sch
7-8	89	781	107	977	*7-8*	106	693	80	879	1856	70	2	155	1
8-9	73	909	132	1114	*8-9*	101	865	107	1073	2187	85	3	189	15
9-10	76	685	105	866	*9-10*	100	576	106	782	1648	83	3	149	16
15-16	106	820	100	1026	*15-16*	98	503	112	713	1739	109	41	200	28
16-17	93	925	82	1100	*16-17*	85	654	115	854	1954	136	41	185	18
17-18	105	937	82	1124	*17-18*	99	820	132	1051	2175	134	50	158	20
TOTAL	542	5057	608	6207	TOTAL	589	4111	652	5352	11559	617	140	1036	98

Prepared by National Data & Surveying Services

Vermont Ave & 6th St

Peak Hour Turning Movement Count

ID: 18-05633-002
City: Los Angeles

Day: Wednesday
Date: 09/26/2018

	PEAK HOURS	COUNT PERIODS
AM	07:30 AM - 08:30 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	05:00 PM - 06:00 PM	03:00 PM - 06:00 PM

Vermont Ave – SOUTHBOUND

	↲	↓	↳	U	⇧
AM	96	1042	91	0	1209
NOON	0	0	0	0	0
PM	81	980	74	1	1246
Lanes	0	3	1	0	

6th St – EASTBOUND

	AM	NOON	PM	Lanes
⇦	991	0	975	
U	0	0	0	0
↱	75	0	105	1
→	981	0	937	2
↴	129	0	82	0

6th St – WESTBOUND

	PM	NOON	AM	Lanes
↰	132	0	111	0
←	820	0	849	3
↙	99	0	107	1
U	0	0	0	0
⇨	1178	0	1301	

Vermont Ave – NORTHBOUND

	⇩	U	↰	↑	↱
Lanes		0	1	3	0
PM	1161	0	74	1008	167
NOON	0	0	0	0	0
AM	1278	0	46	1023	229

CONTROL

Signalized

	AM	NOON	PM
TEV	4779	0	4560
PHF	0.98		0.95

Cars (AM)

	Right	Through	Left
Southbound	93	1004	89
Eastbound	127	969	75
Westbound	110	836	97
Northbound	216	985	46

Cars (NOON)

	Right	Through	Left
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

Cars (PM)

	Right	Through	Left
Southbound	81	953	71
Eastbound	82	922	104
Westbound	131	811	93
Northbound	151	983	74

HT (AM)

	Right	Through	Left
Southbound	3	23	1
Eastbound	2	6	0
Westbound	1	7	2
Northbound	1	20	0

HT (NOON)

	Right	Through	Left
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

HT (PM)

	Right	Through	Left
Southbound	0	6	2
Eastbound	0	6	1
Westbound	1	3	0
Northbound	5	6	0

Pedestrians (Crosswalks)

		AM	NOON	PM
North	↘ (west side)	69	0	66
North	↙ (east side)	26	0	71
West	→ (north side)	52	0	83
West	↑ (south side)	35	0	101
East	↓ (north side)	103	0	89
East	← (south side)	86	0	89
South	↗ (west side)	76	0	51
South	↖ (east side)	31	0	75
Northwest corner (diagonal)		0	0	0
Northeast corner (diagonal)		0	0	0
Southwest corner (diagonal)		0	0	0
Southeast corner (diagonal)		0	0	0

National Data & Surveying Services

Intersection Turning Movement Count

Location: Vermont Ave & 6th St
City: Los Angeles
Control: Signalized

Project ID: 18-05633-002
Date: 9/26/2018

Total

NS/EW Streets:	Vermont Ave				Vermont Ave				6th St				6th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	1	2	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	10	299	33	0	17	295	16	0	14	128	24	0	29	152	17	0	1034
7:15 AM	11	297	41	0	16	292	17	0	27	169	28	0	23	173	13	0	1107
7:30 AM	12	281	46	0	22	273	24	0	26	248	24	0	22	171	25	0	1174
7:45 AM	8	263	50	0	26	271	20	0	22	236	31	0	32	197	25	0	1181
8:00 AM	6	249	64	0	22	246	26	0	12	239	41	0	28	240	33	0	1206
8:15 AM	20	230	69	0	21	252	26	0	15	258	33	0	25	241	28	0	1218
8:30 AM	16	237	58	1	22	278	36	0	22	193	31	0	29	214	19	0	1156
8:45 AM	14	192	45	0	26	252	22	0	24	219	27	0	19	170	27	0	1037
9:00 AM	17	274	37	0	21	258	29	0	18	185	25	0	21	157	20	0	1062
9:15 AM	12	250	41	0	19	249	23	0	20	162	32	0	21	126	26	0	981
9:30 AM	21	254	39	0	20	278	33	0	22	176	32	0	28	143	34	0	1080
9:45 AM	19	257	39	0	20	258	25	0	16	162	16	0	30	150	26	0	1018
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	166	3083	562	1	252	3202	297	0	238	2375	344	0	307	2134	293	0	13254
APPROACH %'s :	4.35%	80.88%	14.74%	0.03%	6.72%	85.36%	7.92%	0.00%	8.05%	80.32%	11.63%	0.00%	11.23%	78.05%	10.72%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	46	1023	229	0	91	1042	96	0	75	981	129	0	107	849	111	0	4779
PEAK HR FACTOR :	0.575	0.910	0.830	0.000	0.875	0.954	0.923	0.000	0.721	0.951	0.787	0.000	0.836	0.881	0.841	0.000	0.981
	0.957				0.963				0.968				0.886				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	1	2	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:00 PM	22	260	48	0	20	260	17	0	23	199	25	0	26	114	24	0	1038
3:15 PM	21	241	71	1	14	237	19	0	30	188	30	0	23	110	28	0	1013
3:30 PM	22	253	58	0	22	256	12	0	30	207	28	0	25	140	25	0	1078
3:45 PM	15	253	49	0	21	263	21	0	23	226	17	0	24	139	35	0	1086
4:00 PM	24	263	50	0	25	268	17	0	21	225	24	0	24	127	30	0	1098
4:15 PM	19	239	38	0	21	228	28	0	19	231	21	0	19	155	29	0	1047
4:30 PM	19	238	39	0	19	232	24	0	21	251	20	0	24	195	33	0	1115
4:45 PM	20	257	46	0	17	268	16	0	32	218	17	0	18	177	23	0	1109
5:00 PM	16	223	53	0	17	228	18	1	26	208	21	0	26	201	42	0	1080
5:15 PM	17	260	38	0	21	243	28	0	29	239	23	0	27	182	28	0	1135
5:30 PM	19	254	36	0	16	273	13	0	20	259	19	0	31	233	33	0	1206
5:45 PM	22	271	40	0	20	236	22	0	30	231	19	0	15	204	29	0	1139
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	236	3012	566	1	233	2992	235	1	304	2682	264	0	282	1977	359	0	13144
APPROACH %'s :	6.19%	78.95%	14.84%	0.03%	6.73%	86.45%	6.79%	0.03%	9.35%	82.52%	8.12%	0.00%	10.77%	75.52%	13.71%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	74	1008	167	0	74	980	81	1	105	937	82	0	99	820	132	0	4560
PEAK HR FACTOR :	0.841	0.930	0.788	0.000	0.881	0.897	0.723	0.250	0.875	0.904	0.891	0.000	0.798	0.880	0.786	0.000	0.945
	0.938				0.940				0.943				0.885				

Turning Movement Count Report AM

Location ID: 19
North/South: Shatto Place
East/West: 6th Street

Date: 11/02/16
City: Los Angeles, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	9	6	4	13	204	19	5	23	9	8	147	15	462
7:15	12	12	3	19	220	14	11	30	11	20	175	16	543
7:30	13	20	4	20	211	22	13	40	14	29	230	22	638
7:45	9	34	8	19	249	23	11	49	23	61	231	21	738
8:00	16	38	6	22	252	26	16	34	20	59	224	30	743
8:15	22	38	8	27	271	24	16	52	14	48	253	25	798
8:30	21	21	7	8	247	15	10	24	15	20	238	34	660
8:45	13	20	6	13	220	14	6	18	14	15	212	25	576
9:00	13	12	4	10	220	19	11	20	10	14	218	24	575
9:15	10	15	10	15	201	10	12	15	9	14	193	23	527
9:30	17	22	6	16	209	10	12	21	7	10	182	18	530
9:45	15	16	8	9	187	21	6	17	9	15	179	24	506

Total Volume:	170	254	74	191	2691	217	129	343	155	313	2482	277	7296
Approach %	34%	51%	15%	6%	87%	7%	21%	55%	25%	10%	81%	9%	

Peak Hr Begin:	7:45												
PHV	68	131	29	76	1019	88	53	159	72	188	946	110	2939
PHF	0.838			0.918			0.855			0.954			0.921

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 19
North/South: Shatto Place
East/West: 6th Street

Date: 11/02/16
City: Los Angeles, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	30	22	8	20	186	13	17	27	8	25	195	19	570
15:15	14	27	6	10	157	13	16	21	23	35	212	22	556
15:30	21	26	13	10	187	25	12	20	24	35	240	13	626
15:45	18	25	4	5	204	19	9	11	20	33	196	17	561
16:00	20	31	12	5	201	19	10	23	11	25	214	10	581
16:15	15	39	9	7	199	13	21	22	17	24	230	20	616
16:30	28	45	29	10	234	18	13	25	14	32	247	13	708
16:45	36	31	12	6	242	19	13	21	14	23	234	23	674
17:00	34	45	27	6	272	19	19	24	10	25	250	22	753
17:15	23	33	13	7	262	20	16	23	15	23	265	15	715
17:30	27	27	8	9	261	21	10	31	18	28	271	19	730
17:45	16	31	15	8	271	18	19	23	13	22	255	21	712

Total Volume:	282	382	156	103	2676	217	175	271	187	330	2809	214	7802
Approach %	34%	47%	19%	3%	89%	7%	28%	43%	30%	10%	84%	6%	

Peak Hr Begin:	17:00												
PHV	100	136	63	30	1066	78	64	101	56	98	1041	77	2910
PHF	0.705			0.988			0.936			0.956			0.966

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	9	0	3	0	11	0	7	0
7:15	9	0	2	0	9	0	5	0
7:30	11	1	3	0	11	1	10	0
7:45	31	1	0	0	20	1	17	0
8:00	49	0	10	0	15	6	9	0
8:15	38	1	5	1	23	0	16	1
8:30	23	1	4	0	18	5	10	0
8:45	30	1	3	0	11	0	11	0
9:00	18	0	0	1	20	1	9	0
9:15	19	0	1	1	15	2	14	0
9:30	19	1	2	0	25	2	3	0
9:45	9	0	2	0	20	0	5	1

	North		East		South		West	
Leg:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
15:00	19	1	3	1	14	3	13	0
15:15	67	0	8	0	28	0	11	0
15:30	83	3	11	0	13	1	19	1
15:45	38	2	9	1	19	1	17	0
16:00	24	2	11	0	9	0	21	0
16:15	24	0	22	0	15	1	10	0
16:30	36	0	20	0	18	4	13	2
16:45	28	2	18	1	15	0	9	0
17:00	36	1	3	0	16	3	15	3
17:15	25	3	7	0	23	3	19	2
17:30	32	4	6	0	18	2	12	1
17:45	24	4	6	0	15	0	13	1

Attachment D

LOS Worksheets

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	70	45	154	76	34	295
Future Vol, veh/h	70	45	154	76	34	295
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	76	49	167	83	37	321

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	604	209	0	0	250	0
Stage 1	209	-	-	-	-	-
Stage 2	395	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	461	831	-	-	1316	-
Stage 1	826	-	-	-	-	-
Stage 2	681	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	448	831	-	-	1316	-
Mov Cap-2 Maneuver	534	-	-	-	-	-
Stage 1	826	-	-	-	-	-
Stage 2	662	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	621	1316	-
HCM Lane V/C Ratio	-	-	0.201	0.028	-
HCM Control Delay (s)	-	-	12.3	7.8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	1047	137	150	910	192	49	1166	248	97	1111	103
Future Volume (veh/h)	88	1047	137	150	910	192	49	1166	248	97	1111	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	96	1138	149	163	989	209	53	1267	270	105	1208	112
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	1285	168	111	1445	645	151	1611	343	119	1817	168
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	467	3160	413	429	3554	1585	416	4215	898	338	4754	441
Grp Volume(v), veh/h	96	639	648	163	989	209	53	1023	514	105	865	455
Grp Sat Flow(s),veh/h/ln	467	1777	1796	429	1777	1585	416	1702	1709	338	1702	1791
Q Serve(g_s), s	16.0	30.0	30.2	6.4	20.6	8.1	10.9	23.9	23.9	10.5	18.9	18.9
Cycle Q Clear(g_c), s	36.6	30.0	30.2	36.6	20.6	8.1	29.8	23.9	23.9	34.4	18.9	18.9
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.53	1.00		0.25
Lane Grp Cap(c), veh/h	163	723	730	111	1445	645	151	1301	653	119	1301	685
V/C Ratio(X)	0.59	0.88	0.89	1.47	0.68	0.32	0.35	0.79	0.79	0.88	0.66	0.66
Avail Cap(c_a), veh/h	163	723	730	111	1445	645	151	1301	653	119	1301	685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.1	24.7	24.8	44.1	22.0	18.2	35.4	24.6	24.6	43.0	23.0	23.0
Incr Delay (d2), s/veh	14.6	14.8	15.0	246.3	2.0	1.0	6.3	4.8	9.3	54.8	2.7	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.0	20.9	21.3	17.6	12.6	5.4	2.4	15.3	16.3	7.4	12.3	13.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	39.5	39.8	290.4	24.0	19.3	41.7	29.4	33.8	97.8	25.7	28.1
LnGrp LOS	D	D	D	F	C	B	D	C	C	F	C	C
Approach Vol, veh/h		1383			1361			1590			1425	
Approach Delay, s/veh		40.6			55.2			31.2			31.8	
Approach LOS		D			E			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		46.0		44.0		46.0		44.0				
Change Period (Y+Rc), s		* 9.4		* 9.6		* 9.4		* 9.6				
Max Green Setting (Gmax), s		* 37		* 34		* 37		* 34				
Max Q Clear Time (g_c+I1), s		38.6		36.4		38.6		31.8				
Green Ext Time (p_c), s		0.0		0.0		0.0		2.1				
Intersection Summary												
HCM 6th Ctrl Delay			39.3									
HCM 6th LOS			D									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	1039	203	95	1141	81	78	172	57	32	141	83
Future Volume (veh/h)	126	1039	203	95	1141	81	78	172	57	32	141	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	137	1129	221	103	1240	88	85	187	62	35	153	90
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	1743	340	254	1979	140	259	328	109	258	269	158
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	413	2966	578	404	3366	238	1137	1344	446	1131	1104	649
Grp Volume(v), veh/h	137	674	676	103	654	674	85	0	249	35	0	243
Grp Sat Flow(s),veh/h/ln	413	1777	1766	404	1777	1827	1137	0	1790	1131	0	1753
Q Serve(g_s), s	19.5	15.1	15.3	13.7	14.4	14.5	4.3	0.0	7.3	1.7	0.0	7.3
Cycle Q Clear(g_c), s	33.9	15.1	15.3	29.0	14.4	14.5	11.6	0.0	7.3	9.0	0.0	7.3
Prop In Lane	1.00		0.33	1.00		0.13	1.00		0.25	1.00		0.37
Lane Grp Cap(c), veh/h	263	1044	1038	254	1044	1074	259	0	437	258	0	428
V/C Ratio(X)	0.52	0.65	0.65	0.41	0.63	0.63	0.33	0.00	0.57	0.14	0.00	0.57
Avail Cap(c_a), veh/h	263	1044	1038	254	1044	1074	378	0	624	376	0	611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.24	0.24	0.24	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.2	8.2	8.3	17.9	8.1	8.1	25.0	0.0	19.9	23.9	0.0	19.9
Incr Delay (d2), s/veh	1.8	0.7	0.8	4.7	2.8	2.8	0.7	0.0	1.2	0.2	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	6.0	6.0	2.6	8.3	8.5	2.1	0.0	5.4	0.8	0.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.9	9.0	9.0	22.7	10.9	10.9	25.7	0.0	21.1	24.1	0.0	21.1
LnGrp LOS	C	A	A	C	B	B	C	A	C	C	A	C
Approach Vol, veh/h		1487			1431			334			278	
Approach Delay, s/veh		10.1			11.7			22.3			21.5	
Approach LOS		B			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		40.3		19.7		40.3		19.7				
Change Period (Y+Rc), s		* 5		5.1		* 5		5.1				
Max Green Setting (Gmax), s		* 29		20.9		* 29		20.9				
Max Q Clear Time (g_c+I1), s		31.0		11.0		35.9		13.6				
Green Ext Time (p_c), s		0.0		1.1		0.0		1.1				
Intersection Summary												
HCM 6th Ctrl Delay			12.8									
HCM 6th LOS			B									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	36	34	346	119	55	282
Future Vol, veh/h	36	34	346	119	55	282
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	37	376	129	60	307

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	868	441	0	0	505	0
Stage 1	441	-	-	-	-	-
Stage 2	427	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	323	616	-	-	1060	-
Stage 1	648	-	-	-	-	-
Stage 2	658	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	305	616	-	-	1060	-
Mov Cap-2 Maneuver	428	-	-	-	-	-
Stage 1	648	-	-	-	-	-
Stage 2	620	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	1.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	502	1060	-
HCM Lane V/C Ratio	-	-	0.152	0.056	-
HCM Control Delay (s)	-	-	13.4	8.6	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	1002	87	172	879	166	78	1080	205	79	1073	86
Future Volume (veh/h)	112	1002	87	172	879	166	78	1080	205	79	1073	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	122	1089	95	187	955	180	85	1174	223	86	1166	93
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	1345	117	134	1445	645	162	1647	313	138	1843	147
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	496	3307	288	473	3554	1585	441	4309	818	386	4821	384
Grp Volume(v), veh/h	122	585	599	187	955	180	85	927	470	86	823	436
Grp Sat Flow(s),veh/h/ln	496	1777	1818	473	1777	1585	441	1702	1723	386	1702	1801
Q Serve(g_s), s	17.0	26.2	26.2	10.4	19.6	6.8	16.7	20.8	20.8	13.6	17.7	17.7
Cycle Q Clear(g_c), s	36.6	26.2	26.2	36.6	19.6	6.8	34.4	20.8	20.8	34.4	17.7	17.7
Prop In Lane	1.00		0.16	1.00		1.00	1.00		0.47	1.00		0.21
Lane Grp Cap(c), veh/h	174	723	740	134	1445	645	162	1301	659	138	1301	688
V/C Ratio(X)	0.70	0.81	0.81	1.39	0.66	0.28	0.53	0.71	0.71	0.62	0.63	0.63
Avail Cap(c_a), veh/h	174	723	740	134	1445	645	162	1301	659	138	1301	688
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.70	0.70	0.70	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	23.6	23.6	42.9	21.7	17.9	37.0	23.6	23.6	40.4	22.7	22.7
Incr Delay (d2), s/veh	21.2	9.5	9.4	204.5	1.7	0.8	11.7	3.3	6.5	19.2	2.3	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.6	17.8	18.2	17.9	11.9	4.5	4.3	13.4	14.3	4.7	11.7	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.7	33.1	33.0	247.4	23.3	18.6	48.7	27.0	30.1	59.6	25.0	27.1
LnGrp LOS	E	C	C	F	C	B	D	C	C	E	C	C
Approach Vol, veh/h		1306			1322			1482			1345	
Approach Delay, s/veh		35.5			54.4			29.2			27.9	
Approach LOS		D			D			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		46.0		44.0		46.0		44.0				
Change Period (Y+Rc), s		* 9.4		* 9.6		* 9.4		* 9.6				
Max Green Setting (Gmax), s		* 37		* 34		* 37		* 34				
Max Q Clear Time (g_c+I1), s		38.6		36.4		38.6		36.4				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			36.5
HCM 6th LOS			D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	1132	106	84	1176	33	60	109	69	106	147	192
Future Volume (veh/h)	116	1132	106	84	1176	33	60	109	69	106	147	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	1230	115	91	1278	36	65	118	75	115	160	209
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	1755	164	223	1885	53	224	318	202	370	219	286
Arrive On Green	0.53	0.53	0.53	0.53	0.53	0.53	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	418	3286	306	406	3530	99	1013	1069	679	1190	736	961
Grp Volume(v), veh/h	126	664	681	91	643	671	65	0	193	115	0	369
Grp Sat Flow(s),veh/h/ln	418	1777	1815	406	1777	1852	1013	0	1748	1190	0	1697
Q Serve(g_s), s	16.2	16.7	16.8	12.9	15.8	15.9	3.7	0.0	5.2	5.1	0.0	11.7
Cycle Q Clear(g_c), s	32.0	16.7	16.8	29.7	15.8	15.9	15.4	0.0	5.2	10.3	0.0	11.7
Prop In Lane	1.00		0.17	1.00		0.05	1.00		0.39	1.00		0.57
Lane Grp Cap(c), veh/h	233	949	970	223	949	989	224	0	520	370	0	505
V/C Ratio(X)	0.54	0.70	0.70	0.41	0.68	0.68	0.29	0.00	0.37	0.31	0.00	0.73
Avail Cap(c_a), veh/h	233	949	970	223	949	989	275	0	609	431	0	591
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.42	0.42	0.42	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.8	10.4	10.4	21.5	10.2	10.2	25.8	0.0	16.6	20.7	0.0	18.9
Incr Delay (d2), s/veh	3.8	1.8	1.8	5.4	3.9	3.7	0.7	0.0	0.4	0.5	0.0	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.3	7.9	8.1	2.6	9.6	9.9	1.6	0.0	3.6	2.5	0.0	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.5	12.2	12.2	26.9	14.1	13.9	26.5	0.0	17.1	21.2	0.0	22.8
LnGrp LOS	C	B	B	C	B	B	C	A	B	C	A	C
Approach Vol, veh/h		1471			1405			258			484	
Approach Delay, s/veh		13.5			14.8			19.5			22.4	
Approach LOS		B			B			B			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.0		23.0		37.0		23.0				
Change Period (Y+Rc), s		* 5		5.1		* 5		5.1				
Max Green Setting (Gmax), s		* 29		20.9		* 29		20.9				
Max Q Clear Time (g_c+I1), s		31.7		13.7		34.0		17.4				
Green Ext Time (p_c), s		0.0		1.7		0.0		0.5				
Intersection Summary												
HCM 6th Ctrl Delay			15.6									
HCM 6th LOS			B									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	70	45	181	76	34	291
Future Vol, veh/h	70	45	181	76	34	291
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	76	49	197	83	37	316

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	629	239	0	0	280	0
Stage 1	239	-	-	-	-	-
Stage 2	390	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	446	800	-	-	1283	-
Stage 1	801	-	-	-	-	-
Stage 2	684	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	433	800	-	-	1283	-
Mov Cap-2 Maneuver	525	-	-	-	-	-
Stage 1	801	-	-	-	-	-
Stage 2	664	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.5	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	607	1283	-
HCM Lane V/C Ratio	-	-	0.206	0.029	-
HCM Control Delay (s)	-	-	12.5	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	1046	137	172	921	197	49	1166	245	97	1111	103
Future Volume (veh/h)	88	1046	137	172	921	197	49	1166	245	97	1111	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	96	1137	149	187	1001	214	53	1267	266	105	1208	112
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	1285	168	111	1445	645	151	1616	339	120	1817	168
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	460	3160	413	430	3554	1585	416	4227	887	339	4754	441
Grp Volume(v), veh/h	96	638	648	187	1001	214	53	1020	513	105	865	455
Grp Sat Flow(s),veh/h/ln	460	1777	1796	430	1777	1585	416	1702	1711	339	1702	1791
Q Serve(g_s), s	15.7	29.9	30.1	6.5	20.9	8.3	10.9	23.8	23.8	10.6	18.9	18.9
Cycle Q Clear(g_c), s	36.6	29.9	30.1	36.6	20.9	8.3	29.8	23.8	23.8	34.4	18.9	18.9
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.52	1.00		0.25
Lane Grp Cap(c), veh/h	160	723	730	111	1445	645	151	1301	654	120	1301	685
V/C Ratio(X)	0.60	0.88	0.89	1.69	0.69	0.33	0.35	0.78	0.78	0.88	0.66	0.66
Avail Cap(c_a), veh/h	160	723	730	111	1445	645	151	1301	654	120	1301	685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.73	0.73	0.73	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	24.7	24.8	44.1	22.1	18.3	35.4	24.5	24.5	43.0	23.0	23.0
Incr Delay (d2), s/veh	15.5	14.7	14.9	335.6	2.0	1.0	6.3	4.8	9.1	53.9	2.7	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.0	20.9	21.2	22.6	12.7	5.5	2.4	15.2	16.3	7.4	12.3	13.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.0	39.4	39.7	379.7	24.1	19.3	41.7	29.3	33.7	96.8	25.7	28.1
LnGrp LOS	D	D	D	F	C	B	D	C	C	F	C	C
Approach Vol, veh/h		1382			1402			1586			1425	
Approach Delay, s/veh		40.6			70.8			31.1			31.7	
Approach LOS		D			E			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		46.0		44.0		46.0		44.0				
Change Period (Y+Rc), s		* 9.4		* 9.6		* 9.4		* 9.6				
Max Green Setting (Gmax), s		* 37		* 34		* 37		* 34				
Max Q Clear Time (g_c+I1), s		38.6		36.4		38.6		31.8				
Green Ext Time (p_c), s		0.0		0.0		0.0		2.1				
Intersection Summary												
HCM 6th Ctrl Delay			43.1									
HCM 6th LOS			D									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	1039	203	95	1141	79	78	170	57	48	168	121
Future Volume (veh/h)	122	1039	203	95	1141	79	78	170	57	48	168	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	133	1129	221	103	1240	86	85	185	62	52	183	132
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	239	1631	318	230	1855	128	251	377	126	309	284	205
Arrive On Green	0.55	0.55	0.55	0.55	0.55	0.55	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	413	2966	578	404	3372	233	1065	1340	449	1133	1010	729
Grp Volume(v), veh/h	133	674	676	103	653	673	85	0	247	52	0	315
Grp Sat Flow(s),veh/h/ln	413	1777	1766	404	1777	1828	1065	0	1790	1133	0	1739
Q Serve(g_s), s	17.3	16.5	16.7	15.0	15.7	15.7	4.6	0.0	6.9	2.4	0.0	9.5
Cycle Q Clear(g_c), s	33.0	16.5	16.7	31.7	15.7	15.7	14.1	0.0	6.9	9.3	0.0	9.5
Prop In Lane	1.00		0.33	1.00		0.13	1.00		0.25	1.00		0.42
Lane Grp Cap(c), veh/h	239	977	972	230	977	1006	251	0	504	309	0	490
V/C Ratio(X)	0.56	0.69	0.70	0.45	0.67	0.67	0.34	0.00	0.49	0.17	0.00	0.64
Avail Cap(c_a), veh/h	239	977	972	230	977	1006	322	0	623	384	0	606
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.25	0.25	0.25	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.3	9.8	9.8	21.4	9.6	9.6	25.1	0.0	18.0	21.8	0.0	18.9
Incr Delay (d2), s/veh	2.3	1.0	1.0	6.2	3.6	3.5	0.8	0.0	0.7	0.3	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.0	6.9	6.9	3.0	9.3	9.6	2.1	0.0	5.0	1.1	0.0	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.6	10.8	10.9	27.6	13.2	13.2	25.9	0.0	18.7	22.1	0.0	20.5
LnGrp LOS	C	B	B	C	B	B	C	A	B	C	A	C
Approach Vol, veh/h		1483			1429			332			367	
Approach Delay, s/veh		12.1			14.2			20.5			20.8	
Approach LOS		B			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.0		22.0		38.0		22.0				
Change Period (Y+Rc), s		* 5		5.1		* 5		5.1				
Max Green Setting (Gmax), s		* 29		20.9		* 29		20.9				
Max Q Clear Time (g_c+I1), s		33.7		11.5		35.0		16.1				
Green Ext Time (p_c), s		0.0		1.5		0.0		0.8				
Intersection Summary												
HCM 6th Ctrl Delay			14.6									
HCM 6th LOS			B									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	1.6					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	36	34	357	119	55	322
Future Vol, veh/h	36	34	357	119	55	322
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	37	388	129	60	350

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	923	453	0	0	517	0
Stage 1	453	-	-	-	-	-
Stage 2	470	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	299	607	-	-	1049	-
Stage 1	640	-	-	-	-	-
Stage 2	629	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	282	607	-	-	1049	-
Mov Cap-2 Maneuver	409	-	-	-	-	-
Stage 1	640	-	-	-	-	-
Stage 2	593	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.8	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	486	1049	-
HCM Lane V/C Ratio	-	-	0.157	0.057	-
HCM Control Delay (s)	-	-	13.8	8.6	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	1015	87	181	883	168	78	1080	239	79	1073	86
Future Volume (veh/h)	112	1015	87	181	883	168	78	1080	239	79	1073	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	122	1103	95	197	960	183	85	1174	260	86	1166	93
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	1346	116	131	1445	645	162	1598	354	133	1843	147
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	492	3311	285	467	3554	1585	441	4182	926	373	4821	384
Grp Volume(v), veh/h	122	592	606	197	960	183	85	956	478	86	823	436
Grp Sat Flow(s),veh/h/ln	492	1777	1819	467	1777	1585	441	1702	1704	373	1702	1801
Q Serve(g_s), s	16.8	26.6	26.7	9.9	19.8	7.0	16.7	21.7	21.7	12.7	17.7	17.7
Cycle Q Clear(g_c), s	36.6	26.6	26.7	36.6	19.8	7.0	34.4	21.7	21.7	34.4	17.7	17.7
Prop In Lane	1.00		0.16	1.00		1.00	1.00		0.54	1.00		0.21
Lane Grp Cap(c), veh/h	172	723	740	131	1445	645	162	1301	651	133	1301	688
V/C Ratio(X)	0.71	0.82	0.82	1.50	0.66	0.28	0.53	0.73	0.73	0.65	0.63	0.63
Avail Cap(c_a), veh/h	172	723	740	131	1445	645	162	1301	651	133	1301	688
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.6	23.7	23.8	43.1	21.7	17.9	37.0	23.9	23.9	41.1	22.7	22.7
Incr Delay (d2), s/veh	21.9	10.0	9.9	249.8	1.6	0.7	11.7	3.7	7.2	22.0	2.3	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.7	18.2	18.5	20.4	11.8	4.6	4.3	13.9	14.7	4.9	11.7	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.5	33.8	33.6	292.9	23.3	18.6	48.7	27.6	31.1	63.1	25.0	27.1
LnGrp LOS	E	C	C	F	C	B	D	C	C	E	C	C
Approach Vol, veh/h		1320			1340			1519			1345	
Approach Delay, s/veh		36.2			62.3			29.9			28.1	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	46.0	44.0	46.0	44.0
Change Period (Y+Rc), s	* 9.4	* 9.6	* 9.4	* 9.6
Max Green Setting (Gmax), s	* 37	* 34	* 37	* 34
Max Q Clear Time (g_c+I1), s	38.6	36.4	38.6	36.4
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	38.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	1132	106	84	1176	53	60	136	69	113	158	207
Future Volume (veh/h)	163	1132	106	84	1176	53	60	136	69	113	158	207
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	177	1230	115	91	1278	58	65	148	75	123	172	225
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	217	1704	159	213	1796	81	222	366	186	367	230	301
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	410	3286	306	406	3462	157	987	1170	593	1158	735	962
Grp Volume(v), veh/h	177	664	681	91	655	681	65	0	223	123	0	397
Grp Sat Flow(s),veh/h/ln	410	1777	1815	406	1777	1842	987	0	1764	1158	0	1697
Q Serve(g_s), s	14.2	17.2	17.3	13.4	16.9	16.9	3.8	0.0	6.0	5.6	0.0	12.6
Cycle Q Clear(g_c), s	31.1	17.2	17.3	30.7	16.9	16.9	16.4	0.0	6.0	11.6	0.0	12.6
Prop In Lane	1.00		0.17	1.00		0.09	1.00		0.34	1.00		0.57
Lane Grp Cap(c), veh/h	217	922	942	213	922	956	222	0	552	367	0	531
V/C Ratio(X)	0.82	0.72	0.72	0.43	0.71	0.71	0.29	0.00	0.40	0.34	0.00	0.75
Avail Cap(c_a), veh/h	217	922	942	213	922	956	257	0	614	408	0	591
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.41	0.41	0.41	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.1	11.1	11.1	22.9	11.0	11.0	25.8	0.0	16.2	20.8	0.0	18.5
Incr Delay (d2), s/veh	13.0	2.0	2.0	6.1	4.6	4.5	0.7	0.0	0.5	0.5	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.1	8.2	8.4	2.7	10.4	10.7	1.6	0.0	4.2	2.7	0.0	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.1	13.1	13.1	29.1	15.6	15.5	26.6	0.0	16.7	21.3	0.0	23.2
LnGrp LOS	D	B	B	C	B	B	C	A	B	C	A	C
Approach Vol, veh/h		1522			1427			288			520	
Approach Delay, s/veh		16.2			16.4			18.9			22.7	
Approach LOS		B			B			B			C	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		36.1		23.9		36.1		23.9
Change Period (Y+Rc), s		* 5		5.1		* 5		5.1
Max Green Setting (Gmax), s		* 29		20.9		* 29		20.9
Max Q Clear Time (g_c+I1), s		32.7		14.6		33.1		18.4
Green Ext Time (p_c), s		0.0		1.7		0.0		0.4

Intersection Summary	
HCM 6th Ctrl Delay	17.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	74	47	162	80	36	310
Future Vol, veh/h	74	47	162	80	36	310
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	80	51	176	87	39	337

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	635	220	0	0	263	0
Stage 1	220	-	-	-	-	-
Stage 2	415	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	443	820	-	-	1301	-
Stage 1	817	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	430	820	-	-	1301	-
Mov Cap-2 Maneuver	519	-	-	-	-	-
Stage 1	817	-	-	-	-	-
Stage 2	646	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.6	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	605	1301	-
HCM Lane V/C Ratio	-	-	0.217	0.03	-
HCM Control Delay (s)	-	-	12.6	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	1136	150	175	969	206	60	1302	293	109	1198	117
Future Volume (veh/h)	126	1136	150	175	969	206	60	1302	293	109	1198	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	137	1235	163	190	1053	224	65	1415	318	118	1302	127
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	148	1284	169	89	1445	645	135	1594	357	98	1808	176
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	433	3158	415	386	3554	1585	375	4171	935	279	4730	461
Grp Volume(v), veh/h	137	693	705	190	1053	224	65	1154	579	118	937	492
Grp Sat Flow(s),veh/h/ln	433	1777	1796	386	1777	1585	375	1702	1702	279	1702	1787
Q Serve(g_s), s	14.1	34.1	34.5	2.1	22.5	8.8	13.3	28.5	28.7	5.7	21.1	21.1
Cycle Q Clear(g_c), s	36.6	34.1	34.5	36.6	22.5	8.8	34.4	28.5	28.7	34.4	21.1	21.1
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.55	1.00		0.26
Lane Grp Cap(c), veh/h	148	723	730	89	1445	645	135	1301	651	98	1301	683
V/C Ratio(X)	0.93	0.96	0.97	2.14	0.73	0.35	0.48	0.89	0.89	1.21	0.72	0.72
Avail Cap(c_a), veh/h	148	723	730	89	1445	645	135	1301	651	98	1301	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.70	0.70	0.70	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	26.0	26.1	44.9	22.5	18.4	39.4	26.0	26.0	44.5	23.7	23.7
Incr Delay (d2), s/veh	56.5	24.8	26.0	538.1	2.3	1.0	11.7	9.2	16.7	156.6	3.5	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.1	25.3	26.0	27.4	13.4	5.7	3.4	18.4	20.2	11.5	13.6	14.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.0	50.7	52.0	583.0	24.8	19.5	51.1	35.2	42.7	201.1	27.2	30.1
LnGrp LOS	F	D	D	F	C	B	D	D	D	F	C	C
Approach Vol, veh/h		1535			1467			1798			1547	
Approach Delay, s/veh		55.5			96.3			38.2			41.4	
Approach LOS		E			F			D			D	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		46.0		44.0		46.0		44.0
Change Period (Y+Rc), s		* 9.4		* 9.6		* 9.4		* 9.6
Max Green Setting (Gmax), s		* 37		* 34		* 37		* 34
Max Q Clear Time (g_c+I1), s		38.6		36.4		38.6		36.4
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	56.6
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	1168	213	100	1233	85	82	181	60	34	148	87
Future Volume (veh/h)	132	1168	213	100	1233	85	82	181	60	34	148	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	143	1270	232	109	1340	92	89	197	65	37	161	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	231	1736	314	212	1949	133	262	342	113	261	280	165
Arrive On Green	0.58	0.58	0.58	0.58	0.58	0.58	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	374	3005	544	349	3375	231	1124	1346	444	1117	1103	651
Grp Volume(v), veh/h	143	746	756	109	704	728	89	0	262	37	0	256
Grp Sat Flow(s),veh/h/ln	374	1777	1772	349	1777	1829	1124	0	1790	1117	0	1753
Q Serve(g_s), s	17.9	18.3	18.8	15.8	16.6	16.8	4.5	0.0	7.7	1.8	0.0	7.7
Cycle Q Clear(g_c), s	34.7	18.3	18.8	34.7	16.6	16.8	12.2	0.0	7.7	9.5	0.0	7.7
Prop In Lane	1.00		0.31	1.00		0.13	1.00		0.25	1.00		0.37
Lane Grp Cap(c), veh/h	231	1026	1024	212	1026	1056	262	0	455	261	0	445
V/C Ratio(X)	0.62	0.73	0.74	0.51	0.69	0.69	0.34	0.00	0.58	0.14	0.00	0.57
Avail Cap(c_a), veh/h	231	1026	1024	212	1026	1056	368	0	624	366	0	611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.0	9.2	9.3	23.3	8.9	8.9	24.9	0.0	19.6	23.7	0.0	19.5
Incr Delay (d2), s/veh	1.1	0.4	0.4	8.6	3.7	3.7	0.8	0.0	1.2	0.2	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.7	6.3	6.4	3.5	9.6	9.8	2.2	0.0	5.7	0.9	0.0	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	9.6	9.8	32.0	12.6	12.6	25.6	0.0	20.7	23.9	0.0	20.7
LnGrp LOS	C	A	A	C	B	B	C	A	C	C	A	C
Approach Vol, veh/h		1645			1541			351			293	
Approach Delay, s/veh		11.0			14.0			22.0			21.1	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	39.7	20.3	39.7	20.3
Change Period (Y+Rc), s	* 5	5.1	* 5	5.1
Max Green Setting (Gmax), s	* 29	20.9	* 29	20.9
Max Q Clear Time (g_c+I1), s	36.7	11.5	36.7	14.2
Green Ext Time (p_c), s	0.0	1.2	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	14.0
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	1.7					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	36	364	125	58	296
Future Vol, veh/h	38	36	364	125	58	296
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	39	396	136	63	322

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	912	464	0	0	532	0
Stage 1	464	-	-	-	-	-
Stage 2	448	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	304	598	-	-	1036	-
Stage 1	633	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	285	598	-	-	1036	-
Mov Cap-2 Maneuver	412	-	-	-	-	-
Stage 1	633	-	-	-	-	-
Stage 2	605	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.9	0	1.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	485	1036	-
HCM Lane V/C Ratio	-	-	0.166	0.061	-
HCM Control Delay (s)	-	-	13.9	8.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	1079	99	228	953	181	94	1177	243	89	1188	116
Future Volume (veh/h)	136	1079	99	228	953	181	94	1177	243	89	1188	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	148	1173	108	248	1036	197	102	1279	264	97	1291	126
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	1338	123	113	1445	645	137	1621	335	119	1808	176
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	452	3290	302	432	3554	1585	379	4242	875	336	4730	462
Grp Volume(v), veh/h	148	633	648	248	1036	197	102	1026	517	97	929	488
Grp Sat Flow(s),veh/h/ln	452	1777	1816	432	1777	1585	379	1702	1713	336	1702	1787
Q Serve(g_s), s	14.6	29.5	29.7	6.9	22.0	7.6	13.5	24.0	24.0	10.4	20.9	20.9
Cycle Q Clear(g_c), s	36.6	29.5	29.7	36.6	22.0	7.6	34.4	24.0	24.0	34.4	20.9	20.9
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.51	1.00		0.26
Lane Grp Cap(c), veh/h	153	723	738	113	1445	645	137	1301	655	119	1301	683
V/C Ratio(X)	0.96	0.88	0.88	2.19	0.72	0.31	0.74	0.79	0.79	0.82	0.71	0.71
Avail Cap(c_a), veh/h	153	723	738	113	1445	645	137	1301	655	119	1301	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.57	0.57	0.57	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.4	24.6	24.6	44.0	22.4	18.1	41.2	24.6	24.6	42.9	23.6	23.6
Incr Delay (d2), s/veh	63.9	14.0	14.0	551.2	1.8	0.7	30.3	4.9	9.4	44.1	3.4	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.0	20.5	21.0	34.4	12.6	4.8	6.1	15.3	16.4	6.5	13.4	14.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	105.2	38.6	38.6	595.2	24.1	18.8	71.6	29.5	34.0	87.0	27.0	29.9
LnGrp LOS	F	D	D	F	C	B	E	C	C	F	C	C
Approach Vol, veh/h		1429			1481			1645			1514	
Approach Delay, s/veh		45.5			119.0			33.5			31.8	
Approach LOS		D			F			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		46.0		44.0		46.0		44.0				
Change Period (Y+Rc), s		* 9.4		* 9.6		* 9.4		* 9.6				
Max Green Setting (Gmax), s		* 37		* 34		* 37		* 34				
Max Q Clear Time (g_c+I1), s		38.6		36.4		38.6		36.4				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		56.8
HCM 6th LOS		E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	1249	111	88	1318	35	63	115	73	111	154	202
Future Volume (veh/h)	122	1249	111	88	1318	35	63	115	73	111	154	202
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	133	1358	121	96	1433	38	68	125	79	121	167	220
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	1724	153	186	1847	49	225	332	210	377	227	298
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	360	3302	293	357	3537	94	997	1071	677	1178	732	965
Grp Volume(v), veh/h	133	728	751	96	719	752	68	0	204	121	0	387
Grp Sat Flow(s),veh/h/ln	360	1777	1818	357	1777	1853	997	0	1748	1178	0	1697
Q Serve(g_s), s	11.8	19.9	20.2	11.2	19.5	19.6	3.9	0.0	5.5	5.4	0.0	12.2
Cycle Q Clear(g_c), s	31.3	19.9	20.2	31.3	19.5	19.6	16.2	0.0	5.5	10.8	0.0	12.2
Prop In Lane	1.00		0.16	1.00		0.05	1.00		0.39	1.00		0.57
Lane Grp Cap(c), veh/h	191	928	949	186	928	968	225	0	541	377	0	525
V/C Ratio(X)	0.70	0.78	0.79	0.51	0.77	0.78	0.30	0.00	0.38	0.32	0.00	0.74
Avail Cap(c_a), veh/h	191	928	949	186	928	968	264	0	609	423	0	591
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.28	0.28	0.28	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.9	11.6	11.7	26.1	11.5	11.5	25.8	0.0	16.2	20.4	0.0	18.5
Incr Delay (d2), s/veh	5.9	1.9	2.0	9.8	6.3	6.1	0.7	0.0	0.4	0.5	0.0	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.4	8.7	9.0	3.3	12.0	12.4	1.7	0.0	3.8	2.6	0.0	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.7	13.5	13.6	35.9	17.8	17.6	26.5	0.0	16.6	20.9	0.0	22.8
LnGrp LOS	C	B	B	D	B	B	C	A	B	C	A	C
Approach Vol, veh/h		1612			1567			272			508	
Approach Delay, s/veh		15.2			18.8			19.1			22.3	
Approach LOS		B			B			B			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.3		23.7		36.3		23.7				
Change Period (Y+Rc), s		* 5		5.1		* 5		5.1				
Max Green Setting (Gmax), s		* 29		20.9		* 29		20.9				
Max Q Clear Time (g_c+I1), s		33.3		14.2		33.3		18.2				
Green Ext Time (p_c), s		0.0		1.7		0.0		0.4				

Intersection Summary		
HCM 6th Ctrl Delay		17.8
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	2.5					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	74	47	189	80	36	306
Future Vol, veh/h	74	47	189	80	36	306
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	80	51	205	87	39	333

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	660	249	0	0	292	0
Stage 1	249	-	-	-	-	-
Stage 2	411	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	428	790	-	-	1270	-
Stage 1	792	-	-	-	-	-
Stage 2	669	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	415	790	-	-	1270	-
Mov Cap-2 Maneuver	510	-	-	-	-	-
Stage 1	792	-	-	-	-	-
Stage 2	648	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.8	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	591	1270	-
HCM Lane V/C Ratio	-	-	0.223	0.031	-
HCM Control Delay (s)	-	-	12.8	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	1135	150	197	980	211	60	1302	290	109	1198	117
Future Volume (veh/h)	126	1135	150	197	980	211	60	1302	290	109	1198	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	137	1234	163	214	1065	229	65	1415	315	118	1302	127
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	1284	169	89	1445	645	135	1597	355	98	1808	176
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	426	3157	415	386	3554	1585	375	4179	928	280	4730	461
Grp Volume(v), veh/h	137	692	705	214	1065	229	65	1152	578	118	937	492
Grp Sat Flow(s),veh/h/ln	426	1777	1796	386	1777	1585	375	1702	1703	280	1702	1787
Q Serve(g_s), s	13.7	34.1	34.5	2.1	22.9	9.0	13.3	28.4	28.6	5.8	21.1	21.1
Cycle Q Clear(g_c), s	36.6	34.1	34.5	36.6	22.9	9.0	34.4	28.4	28.6	34.4	21.1	21.1
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.54	1.00		0.26
Lane Grp Cap(c), veh/h	145	723	730	89	1445	645	135	1301	651	98	1301	683
V/C Ratio(X)	0.94	0.96	0.97	2.40	0.74	0.36	0.48	0.89	0.89	1.20	0.72	0.72
Avail Cap(c_a), veh/h	145	723	730	89	1445	645	135	1301	651	98	1301	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.65	0.65	0.65	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	26.0	26.1	44.9	22.6	18.5	39.4	26.0	26.0	44.5	23.7	23.7
Incr Delay (d2), s/veh	61.1	24.6	25.8	653.9	2.2	1.0	11.7	9.1	16.5	155.0	3.5	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.3	25.2	25.9	32.3	13.4	5.7	3.4	18.4	20.1	11.5	13.6	14.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	102.8	50.6	51.9	698.8	24.8	19.5	51.1	35.0	42.5	199.5	27.2	30.1
LnGrp LOS	F	D	D	F	C	B	D	D	D	F	C	C
Approach Vol, veh/h		1534			1508			1795			1547	
Approach Delay, s/veh		55.9			119.7			38.0			41.3	
Approach LOS		E			F			D			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		46.0		44.0		46.0		44.0				
Change Period (Y+Rc), s		* 9.4		* 9.6		* 9.4		* 9.6				
Max Green Setting (Gmax), s		* 37		* 34		* 37		* 34				
Max Q Clear Time (g_c+I1), s		38.6		36.4		38.6		36.4				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			62.4
HCM 6th LOS			E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	1168	213	100	1233	83	82	179	60	50	175	125
Future Volume (veh/h)	128	1168	213	100	1233	83	82	179	60	50	175	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	1270	232	109	1340	90	89	195	65	54	190	136
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	1627	294	190	1830	123	253	390	130	310	294	211
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	374	3005	544	349	3380	226	1054	1342	447	1119	1014	726
Grp Volume(v), veh/h	139	746	756	109	703	727	89	0	260	54	0	326
Grp Sat Flow(s),veh/h/ln	374	1777	1772	349	1777	1830	1054	0	1790	1119	0	1740
Q Serve(g_s), s	14.3	19.9	20.5	12.0	18.0	18.2	4.8	0.0	7.2	2.5	0.0	9.8
Cycle Q Clear(g_c), s	32.5	19.9	20.5	32.5	18.0	18.2	14.7	0.0	7.2	9.8	0.0	9.8
Prop In Lane	1.00		0.31	1.00		0.12	1.00		0.25	1.00		0.42
Lane Grp Cap(c), veh/h	209	962	960	190	962	990	253	0	520	310	0	505
V/C Ratio(X)	0.66	0.78	0.79	0.57	0.73	0.73	0.35	0.00	0.50	0.17	0.00	0.65
Avail Cap(c_a), veh/h	209	962	960	190	962	990	315	0	623	375	0	606
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.4	10.9	11.0	26.1	10.4	10.5	25.0	0.0	17.7	21.7	0.0	18.6
Incr Delay (d2), s/veh	1.5	0.6	0.6	12.0	4.9	4.8	0.8	0.0	0.7	0.3	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.7	7.2	7.4	3.8	10.8	11.1	2.2	0.0	5.2	1.2	0.0	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	11.5	11.6	38.2	15.3	15.3	25.8	0.0	18.4	22.0	0.0	20.4
LnGrp LOS	C	B	B	D	B	B	C	A	B	C	A	C
Approach Vol, veh/h		1641			1539			349			380	
Approach Delay, s/veh		12.8			16.9			20.3			20.6	
Approach LOS		B			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.5		22.5		37.5		22.5				
Change Period (Y+Rc), s		* 5		5.1		* 5		5.1				
Max Green Setting (Gmax), s		* 29		20.9		* 29		20.9				
Max Q Clear Time (g_c+I1), s		34.5		11.8		34.5		16.7				
Green Ext Time (p_c), s		0.0		1.6		0.0		0.8				
Intersection Summary												
HCM 6th Ctrl Delay			15.9									
HCM 6th LOS			B									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	121	41	398	75	32	269
Future Vol, veh/h	121	41	398	75	32	269
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	132	45	433	82	35	292

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	836	474	0	0	515	0
Stage 1	474	-	-	-	-	-
Stage 2	362	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	337	590	-	-	1051	-
Stage 1	626	-	-	-	-	-
Stage 2	704	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	326	590	-	-	1051	-
Mov Cap-2 Maneuver	446	-	-	-	-	-
Stage 1	626	-	-	-	-	-
Stage 2	681	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	475	1051	-
HCM Lane V/C Ratio	-	-	0.371	0.033	-
HCM Control Delay (s)	-	-	17	8.5	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.7	0.1	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	36	375	125	58	336
Future Vol, veh/h	38	36	375	125	58	336
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	39	408	136	63	365

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	967	476	0	0	544	0
Stage 1	476	-	-	-	-	-
Stage 2	491	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	282	589	-	-	1025	-
Stage 1	625	-	-	-	-	-
Stage 2	615	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	265	589	-	-	1025	-
Mov Cap-2 Maneuver	394	-	-	-	-	-
Stage 1	625	-	-	-	-	-
Stage 2	577	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.2	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	470	1025	-
HCM Lane V/C Ratio	-	-	0.171	0.062	-
HCM Control Delay (s)	-	-	14.2	8.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	1092	99	237	957	183	94	1177	277	89	1188	116
Future Volume (veh/h)	136	1092	99	237	957	183	94	1177	277	89	1188	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	148	1187	108	258	1040	199	102	1279	301	97	1291	126
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	1340	122	110	1445	645	137	1578	371	114	1808	176
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	449	3294	299	426	3554	1585	379	4129	971	324	4730	462
Grp Volume(v), veh/h	148	639	656	258	1040	199	102	1054	526	97	929	488
Grp Sat Flow(s),veh/h/ln	449	1777	1817	426	1777	1585	379	1702	1696	324	1702	1787
Q Serve(g_s), s	14.5	30.0	30.2	6.4	22.1	7.7	13.5	25.0	25.0	9.4	20.9	20.9
Cycle Q Clear(g_c), s	36.6	30.0	30.2	36.6	22.1	7.7	34.4	25.0	25.0	34.4	20.9	20.9
Prop In Lane	1.00		0.16	1.00		1.00	1.00		0.57	1.00		0.26
Lane Grp Cap(c), veh/h	152	723	739	110	1445	645	137	1301	648	114	1301	683
V/C Ratio(X)	0.97	0.88	0.89	2.34	0.72	0.31	0.74	0.81	0.81	0.85	0.71	0.71
Avail Cap(c_a), veh/h	152	723	739	110	1445	645	137	1301	648	114	1301	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.53	0.53	0.53	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	24.7	24.8	44.1	22.4	18.1	41.2	24.9	24.9	43.4	23.6	23.6
Incr Delay (d2), s/veh	65.6	14.9	14.9	615.8	1.7	0.7	30.3	5.6	10.6	51.3	3.4	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.0	21.0	21.4	36.8	12.5	4.8	6.1	15.9	17.0	6.8	13.4	14.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	107.1	39.6	39.7	659.9	24.1	18.8	71.6	30.4	35.5	94.6	27.0	29.9
LnGrp LOS	F	D	D	F	C	B	E	C	D	F	C	C
Approach Vol, veh/h		1443			1497			1682			1514	
Approach Delay, s/veh		46.6			132.9			34.5			32.3	
Approach LOS		D			F			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		46.0		44.0		46.0		44.0				
Change Period (Y+Rc), s		* 9.4		* 9.6		* 9.4		* 9.6				
Max Green Setting (Gmax), s		* 37		* 34		* 37		* 34				
Max Q Clear Time (g_c+I1), s		38.6		36.4		38.6		36.4				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			60.8
HCM 6th LOS			E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	1249	111	88	1318	55	63	142	73	118	165	217
Future Volume (veh/h)	169	1249	111	88	1318	55	63	142	73	118	165	217
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	184	1358	121	96	1433	60	68	154	79	128	179	236
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	177	1675	149	177	1763	74	223	378	194	374	237	313
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	352	3302	293	357	3476	145	971	1165	598	1147	732	965
Grp Volume(v), veh/h	184	728	751	96	731	762	68	0	233	128	0	415
Grp Sat Flow(s),veh/h/ln	352	1777	1818	357	1777	1844	971	0	1763	1147	0	1697
Q Serve(g_s), s	9.6	20.5	20.8	9.6	20.7	20.8	4.0	0.0	6.2	5.9	0.0	13.1
Cycle Q Clear(g_c), s	30.4	20.5	20.8	30.4	20.7	20.8	17.2	0.0	6.2	12.0	0.0	13.1
Prop In Lane	1.00		0.16	1.00		0.08	1.00		0.34	1.00		0.57
Lane Grp Cap(c), veh/h	177	901	922	177	901	935	223	0	572	374	0	550
V/C Ratio(X)	1.04	0.81	0.81	0.54	0.81	0.81	0.31	0.00	0.41	0.34	0.00	0.75
Avail Cap(c_a), veh/h	177	901	922	177	901	935	246	0	614	402	0	591
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.26	0.26	0.26	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.5	12.3	12.4	27.1	12.4	12.4	25.8	0.0	15.8	20.5	0.0	18.1
Incr Delay (d2), s/veh	46.1	2.1	2.2	11.4	7.9	7.7	0.8	0.0	0.5	0.5	0.0	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.7	9.0	9.3	3.3	13.0	13.5	1.7	0.0	4.3	2.8	0.0	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.5	14.5	14.6	38.5	20.2	20.1	26.6	0.0	16.2	21.0	0.0	23.2
LnGrp LOS	F	B	B	D	C	C	C	A	B	C	A	C
Approach Vol, veh/h		1663			1589			301			543	
Approach Delay, s/veh		21.2			21.3			18.6			22.7	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		35.4		24.6		35.4		24.6
Change Period (Y+Rc), s		* 5		5.1		* 5		5.1
Max Green Setting (Gmax), s		* 29		20.9		* 29		20.9
Max Q Clear Time (g_c+I1), s		32.4		15.1		32.4		19.2
Green Ext Time (p_c), s		0.0		1.7		0.0		0.3

Intersection Summary			
HCM 6th Ctrl Delay			21.2
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	69	23	271	117	50	468
Future Vol, veh/h	69	23	271	117	50	468
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	75	25	295	127	54	509

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	976	359	0	0	422	0
Stage 1	359	-	-	-	-	-
Stage 2	617	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	279	685	-	-	1137	-
Stage 1	707	-	-	-	-	-
Stage 2	538	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	266	685	-	-	1137	-
Mov Cap-2 Maneuver	387	-	-	-	-	-
Stage 1	707	-	-	-	-	-
Stage 2	513	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.8	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	434	1137	-
HCM Lane V/C Ratio	-	-	0.23	0.048	-
HCM Control Delay (s)	-	-	15.8	8.3	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.9	0.1	-

Appendix H-2

Construction Traffic Management Plan

DRAFT

CONSTRUCTION TRAFFIC MANAGEMENT PLAN

550 S. SHATTO PLACE PROJECT
514 - 550 S. SHATTO PLACE AND 3119 W. 6th STREET
LOS ANGELES, CALIFORNIA

INTRODUCTION

This document represents the Construction Traffic Management Plan (the Plan) to be followed by TF Shatto LP, its successors and assigns (collectively, the Developer), its General Contractor, and its subcontractors, in connection with the construction of the 550 S. Shatto Place Project (Project) located at 514 - 550 S. Shatto Place and 3119 W. 6th Street in Los Angeles, California. The Project location is shown in Figure 1. The Plan shall apply during all aspects of construction related to the Project.

Project Description

The Project proposes 318 multi-family residential units, including 35 affordable housing units and three live-work units, and 21,482 square feet (sf) of commercial uses within a new eight-story building and the repurposed church building. The Project would replace 27,843 sf of existing office space and the existing 170-student private school and associated 45-space surface parking lot. Parking would be contained within three levels of parking with access via two driveways along Shatto Place. The southern driveway would provide access to commercial and residential parking on the ground level and the northern driveway would provide access to the residential parking on the subterranean levels. All loading would be internal to the Project site and accessed via Shatto Place. No vehicular access to the parking and loading facilities is proposed along 6th Street, however, a service entryway for emergency vehicles only is provided along 6th Street and would be limited to right-turns in/out.

Statement of Purpose

The purpose of this Plan is to facilitate timely completion of the Project and to minimize any potential construction-related effects that may be experienced by the surrounding community in connection with the construction of the Project. The Plan encompasses construction activities associated with construction of all aspects of the Project. The Project is required to implement mitigation measures (MMs), including MM TRAF-1, a construction management plan (i.e., the Plan), as well as additional measures (MM TRAF-2 through MM TRAF-5) to reduce potential construction-related traffic and safety constraints in the immediate area. The list of MMs is provided in the Attachment and incorporated as part of this Plan.

CONSTRUCTION ACTIVITIES

Construction Hours

Construction shall take place in compliance with the provisions of Sections 41.40 and 62.61 of the Los Angeles Municipal Code (LAMC). In order to ensure timely completion of the Project while minimizing construction-related effects on the surrounding community, exterior noise-generating construction activities shall be limited to Monday through Friday from 7:00 AM to 9:00 PM and Saturday from 8:00 AM to 6:00 PM. No construction activities shall occur on Sundays or any national holidays without a separate permit. Management, supervisory, administrative, and inspection activities shall take place within the designated construction hours to the extent feasible; however, such activities may take place outside of the designated construction hours if approved by the appropriate agency.

Site Office and Construction Liaison Officer

Prior to beginning construction activity and until construction of the Project is complete, the General Contractor will maintain a site office to be located within the existing church building. The site office will be open at all times when construction activity is underway. Contact information to reach A representative of the General Contractor by phone at the site office will be provided. In the event of an emergency at a time when the site office is not open, contact information to reach the General Contractor by phone will be posted on site.

The Developer shall appoint a Construction Liaison Officer (CLO) to respond to inquiries or concerns of surrounding residents and businesses, as well as the general public. The CLO may be an employee or representative of either the General Contractor or the Developer. A Project hotline will be provided for local neighbor complaints or any inquiries about the construction process and shall be conspicuously posted at the construction site. A response to comments or inquiries will be provided within 24 hours of receipt. The CLO shall notify the Developer if the CLO is notified of any construction activities that potentially violate this Plan or any of the construction-related mitigation measures.

Construction Phasing

It is anticipated that construction of the Project will be continuous and will occur over a period of approximately 32 months. Once established, the construction barricades will remain in place for the duration of the construction (or returned once that area is complete).

Barricades and Construction Site Security

Any lane closure barricades will consist of K-rail to serve as a site fence, dust wall, and noise barrier. All K-rail barriers will be equipped with side reflectors with cube-corner lenses or top mounted reflectors. All construction barriers will be maintained in accordance with City regulations and their appearance will be maintained in a visually attractive manner throughout the construction period.

Signs will be posted along the fencing stating that no unauthorized materials are permitted to be posted. The General Contractor will ensure with daily morning walks by designated personnel that no unauthorized materials are posted on any temporary barricades or any temporary pedestrian walkways. Graffiti on barricades will be removed or covered at the earliest possible time after the General Contractor is aware of its existence.

The Developer will utilize all appropriate security measures, including but not limited to: security guards, lighting of trailer areas and the construction site, fencing of trailer areas and the construction site, and locks at all entrances to the trailer areas and construction site.

Emergency Access

Emergency access to the Project site and adjacent areas shall be kept clear and unobstructed during all phases of demolition and construction work.

Los Angeles Unified School District and Local Agency Coordination

All construction crews shall be notified of school locations and will be instructed to stop when school bus red lights are flashing. The Project is located diagonally across Young Oak Kim Academy, and, as such, the Project will provide funding to provide an adequate number of crossing guards on school days to assist the safe movement of pedestrians/students at the intersection of 6th Street & Shatto Place when the sidewalks may be closed near due to construction activity.

The Los Angeles County Metropolitan Transportation Authority (Metro) currently has service along 6th Street adjacent to the Project site, however, there is no bus stop adjacent to the Project Site that will require any temporary or permanent relocation during construction. The CLO shall coordinate with the Metro Bus Operations Control Special Events Coordinator regarding any construction activities that could affect Metro bus routes. Metro shall also be notified of any planned lane closures in the vicinity of the Project during construction.

CONSTRUCTION CIRCULATION

Traffic Control Plans

The Developer will generate all worksite traffic control plans (TCP) and obtain prior Los Angeles Department of Transportation (LADOT) approval for any sidewalk closures, lane closures, detours, on-street staging areas and/or other temporary changes in street traffic control that may be required during construction. Temporary traffic control procedures will be employed as appropriate to ensure pedestrian, bicycle, and vehicle safety. These procedures could include, but are not limited to: traffic cones, temporary traffic signs, changeable message signs, and flagmen. All traffic control procedures shall be undertaken in accordance with the standards in the latest edition of *California Manual on Uniform Traffic Control Devices* (California Department of Transportation [Caltrans]) or the latest edition of *Work Area Traffic Control Handbook* (American Public Works Association). The General Contractor will be responsible for replacing any signs missing or damaged due to construction activities according to LADOT specifications. In addition, the General Contractor will be responsible for striping (proposed and existing) to be in good condition and visible. Any faded existing striping would be repainted as directed by LADOT.

Per LAMC Section 62.61, construction activities that are within or obstruct the public right-of-way on Shatto Place and 6th Street are restricted during peak traffic hours, defined as the hours of 6:00-9:00 AM and 3:30-7:00 PM, unless an exemption is approved by the Department of Public Works.

Truck Staging, Haul Routes, and Access

Per MM TRAF-2, there shall be no staging or parking of construction vehicles, including vehicles to transport workers on any of the streets adjacent to Young Oak Kim Academy (i.e., along 6th Street). The proposed staging areas are located within the Project site along the existing church building and on the east side of Shatto Place. On-street parking is allowed along the east side of Shatto Place, so construction fences may result in the temporary loss of up to approximately 200 linear feet of curb parking. Travel lanes will be maintained in each direction on Shatto Place throughout the construction period.

Per MM TRAF-3, City of Los Angeles Department of Building and Safety (LADBS) shall assign specific haul route hours of operation based upon Young Oak Kim Academy's hours of operation. Per MM TRAF-4, haul route scheduling shall be sequenced to minimize conflicts with pedestrians, school buses and cars at the arrival and dismissal times of the school day. Haul route trucks shall not be routed past the school during periods when school is in session especially when students are arriving or departing from Young Oak Kim Academy campus.

Based on the anticipated haul truck routes, shown in Figure 2, loaded trucks would travel south on Shatto Place, west on 6th Street, north on Vermont Avenue to the Hollywood Freeway (US 101) South, to Interstate 10 (I-10) East, to Interstate 605 (I-605) North, and exit at Live Oak Avenue to the Hanson disposal site. Empty trucks would travel west on Live Oak Avenue to I-605 South, to I-10 West, to US 101 North, exit at Vermont Avenue and travel south on Vermont Avenue, east on 6th Street, and north on Shatto Place to the Project site.

Haul trucks shall be directed to use commercial streets and highways and are not permitted to use residential streets. Where necessary, flagmen with communication devices shall be used to coordinate hauling activities, in particular the ingress and egress of haul trucks on public streets. Permits for oversized or overweight loads, if needed, will be obtained from the Los Angeles Department of Public Works Bureau of Street Services (and Caltrans, if the oversized or overweight load will be traveling on a state highway). Such permit loads will be subject to the conditions of the permit at the time of issuance.

Gibson transportation consulting, inc.

Large truck haul trips will be limited to a maximum of 64 one-way trips (32 entering and 32 exiting) per day.

All trucks will access the Project site via drive gates located on 6th Street and Shatto Place. Ingress to the Project site would be along northbound Shatto Place or westbound 6th Street (right-turn in) and egress from the Project site would be southbound Shatto Place or westbound 6th Street (left-turn out to Shatto Place or right-turn out to 6th Street).

Construction Truck Hours

To the extent feasible, the arrival and departure of construction trucks shall occur outside of afternoon peak commute hours and shall be minimized when not feasible. On weekdays, haul truck trips shall be scheduled to avoid generating trips during the weekday afternoon peak period (operating conditions at intersections in this area are generally worse during the afternoon peak period than during the morning peak period). On Saturdays, the haul hours will be between 8:00 AM and 4:00 PM.

Equipment and material deliveries and pick-ups shall be coordinated to reduce the potential for trucks to wait to load or unload on public streets for protracted periods of time and to ensure that trucks are not impeding public traffic flow on the surrounding public streets while waiting to enter the Project site.

Construction Employee Parking

It shall be the responsibility of the General Contractor to provide employee parking during this construction period. All construction employee parking will take place in the adjacent and nearby public parking facilities (e.g., public parking garage located directly opposite of the Project site) until the parking garage is constructed, of which all parking for construction workers will be then secured on-site.

The General Contractor shall provide all construction contractors with written information on where its workers and subcontractors are permitted to park, including identification of clear consequences to violators for failure to follow these regulations. This information shall clearly state that construction worker parking is prohibited on nearby residential streets.

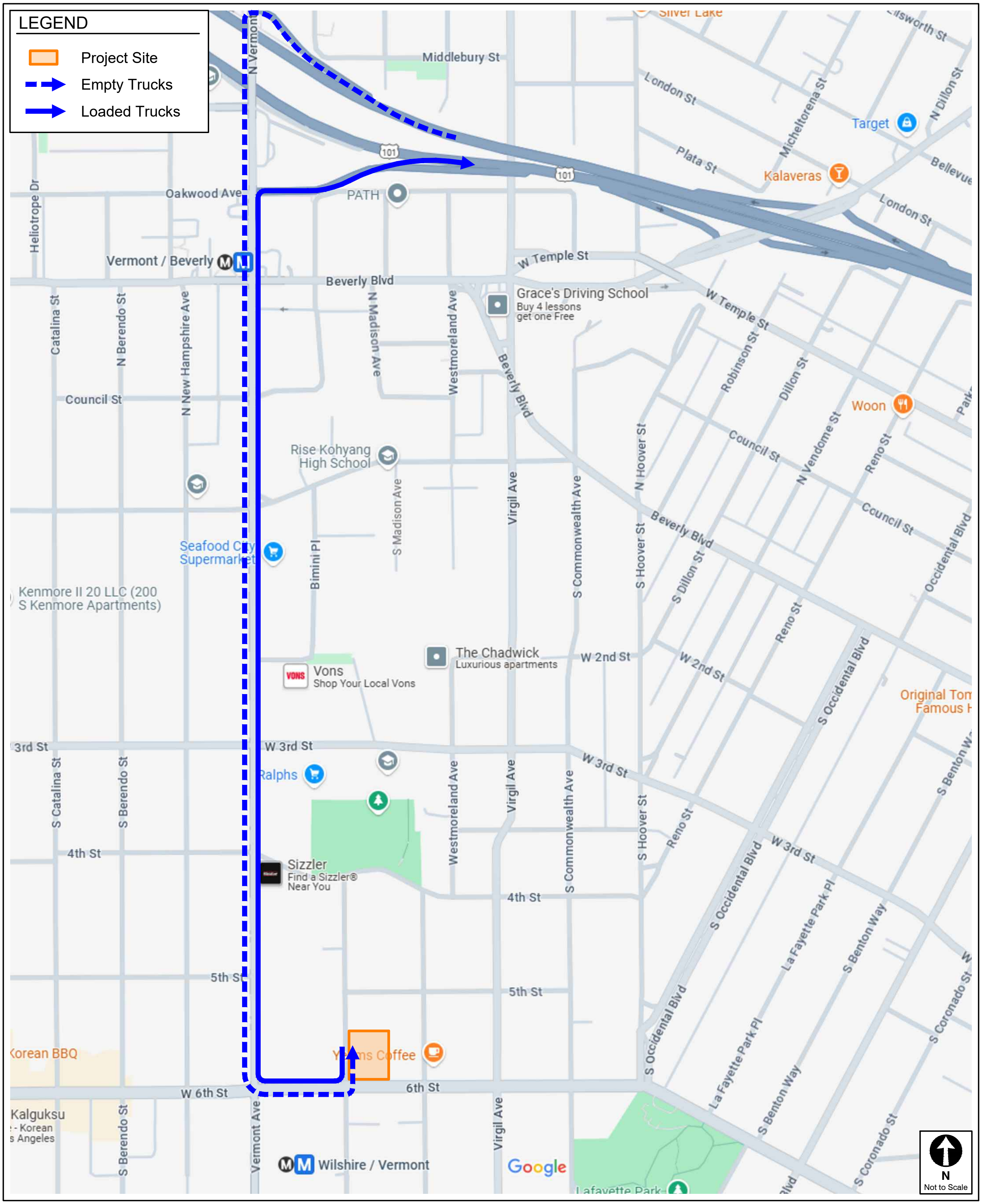
The General Contractor shall be responsible for informing subcontractors and construction workers of these requirements, for monitoring compliance of the subcontractors, and, if necessary, for hiring a security guard to enforce these parking provisions. The General Contractor shall be responsible for all costs associated with enforcement of this mitigation measure.

Pedestrian Safety and Access

Per MM TRAF-5, the Developer shall plan construction and construction staging as to maintain pedestrian access on adjacent sidewalks throughout all construction phases. This requires the Developer to maintain adequate and safe pedestrian protection, including physical separation (including utilization of barriers such as K-Rails or scaffolding, etc. as detailed above) from work space and vehicular traffic and overhead protection, due to sidewalk closure or blockage, at all times. Temporary pedestrian facilities shall be adjacent to the Project site and provide safe, accessible routes that replicate as nearly as practical the most desirable characteristics of the existing facility. Covered walkways shall be provided where pedestrians are exposed to potential injury from falling objects. The Developer shall keep sidewalks open during construction until only when it is absolutely required to close or block sidewalks for construction staging. Sidewalks shall be reopened as soon as reasonably feasible taking construction and construction staging into account. Should the sidewalks fronting the Project site be used intermittently during the construction period, temporary rerouting of pedestrian traffic will be required. Sidewalk encroachment permits with associated pedestrian detours established prior to closures will be required.

PROJECT SITE LOCATION

FIGURE 1



ANTICIPATED HAUL ROUTES	FIGURE 2

Attachment

Mitigation Measures

Source: Excerpt from Section 5.17, Transportation, of the *Sustainable Communities Environmental Assessment (SCEA) for the 550 Shatto Place/Soul-Project* (ICF and Environmental Science Associates, May 2019) [Pages 5-221 to 5-222]

- *MM TRAF-1: The Applicant shall prepare a detailed Construction Management Plan that shall include, but not be limited to, the following elements, as appropriate:*
  - *Requiring workers and construction trucks to generally travel outside of the peak hours*
  - *Prohibition of construction worker parking on nearby residential streets*
  - *Temporary traffic control during all construction activities encroaching on public rights-of-way to improve traffic flow and safety on public roadways*
  - *Scheduling of construction activities to reduce the effect on traffic flow on surrounding arterial streets*
  - *** Funding to Young Oak Kim Academy to provide an adequate number of crossing guards on school days to assist the safe movement of pedestrians and students at the intersection of 6th Street & Shatto Place when the sidewalks may be closed for Project-related construction*
  - *Safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers as appropriate*
  - *Scheduling of construction-related deliveries so as to generally occur outside the commuter peak hours*
  - *Installation of appropriate traffic signs around the Project Site to ensure pedestrian, bicycle, and vehicle safety.*

- *MM TRAF-2: There shall be no staging or parking of construction vehicles, including vehicles to transport workers on any of the streets adjacent to the school.*

- *MM TRAF-3: LADBS shall assign specific haul route hours of operation based upon Young Oak Kim Academy's hours of operation.*

- *MM TRAF-4: Haul route scheduling shall be sequenced to minimize conflicts with pedestrians, school buses and cars at the arrival and dismissal times of the school day. Haul route trucks shall not be routed past the school during periods when school is in session especially when students are arriving or departing from the campus.*

- *MM TRAF-5: The Applicant shall plan construction and construction staging as to maintain pedestrian access on adjacent sidewalks throughout all construction phases. This requires the applicant to maintain adequate and safe pedestrian protection, including physical separation (including utilization of barriers such as K-Rails or scaffolding, etc.) from work space and vehicular traffic and overhead protection, due to sidewalk closure or blockage, at all times. Temporary pedestrian facilities shall be adjacent to the Project Site and provide safe, accessible routes that replicate as nearly as practical the most desirable characteristics of the existing facility. Covered walkways shall be provided where pedestrians are exposed to potential injury from falling objects. Applicant shall keep sidewalk open during construction until only when it is absolutely required to close or block sidewalk for construction staging. Sidewalk shall be reopened as soon as reasonably feasible taking construction and construction staging into account.*

** **Source:** Letter of Determination issued by the Los Angeles City Planning Commission on June 08, 2021 for CEQA: ENV-2018-3986-SCEA-REC1

Appendix I
Civil Report Memorandum

Civil Report Memorandum

May 20, 2024

Existing Conditions

Topography and Drainage – Approved Project

The existing site area consisting of three parcels (approximately 1.18 acres pre-dedication) generally slopes southwest toward the intersection of Shatto Place and 6th Street at a rate of about 1.2%. There are on-site inlets for drainage that currently curb drain to Shatto Place. The existing site is 98% impervious, resulting in a discharge volume of 3,758 cubic feet for an 85th Percentile storm. Based on a 50-year storm event the existing peak discharge is 3.11 cubic feet per second.

Topography and Drainage – Modified Project

One additional lot north of the approved project has been added to the project site, resulting in a total of four parcels (approximately 1.52 acres pre-dedication). The site general flow pattern is unchanged with southwesterly slopes at a rate of about 1.2%. The existing impervious increased slightly to 99%. The resultant existing 85th Percentile storm volume discharge is increased to 4,590 cubic feet, while the existing 50-year peak discharge is increased to 4.0 cubic feet per second. No existing inlets were observed and runoff appears to all sheet flow onto Shatto Place. Existing roof drains either discharge above-grade or are connected to curb drains discharging onto Shatto Place.

Storm Drain

Based on our existing utility research, there are no existing storm drain systems in the adjacent public streets abutting the site. The closest existing public storm drain main line is located one block westerly running northerly along Vermont Avenue.

Sanitary Sewer

The existing public sanitary sewer main lines near the project are owned and maintained by the City of Los Angeles Sanitation Department. An existing main line exists in each street adjacent to the subject property and their information is summarized below:

- Shatto Place – 8-inch vitrified clay pipe (VCP) running south towards 6th Street
- 6th Street – 8-inch vitrified clay pipe (VCP) running easterly

The City of Los Angeles Central District Sewer Wye Map 11789, 25635, and supplemental plan B-4551 cover the subject area and provide information regarding these existing main lines and profiles. Information related to the existing sewer capacity and flow has been provided by the Wastewater Engineering Services Division (WESD) via the Wastewater

Service Information (WWSI) process and their response is attached separately (dated September 23, 2020). The report indicates that the two existing 8-inch lines adjacent to the project site feed into a 20-inch mainline on Berendo Street, and that the existing design capacity of that main line is at 32%.

Domestic/Fire Water – Approved Project

The existing water main lines near the project area are owned and maintained by the Los Angeles Department of Water & Power. An existing main line exists in each street adjacent to the subject property and their information is summarized below:

- Shatto Place – 8-inch main line with a maximum pressure of 83 psi as of April 9, 2024
- 6th Street – 24-inch main line with a maximum pressure of 83 psi as of April 9, 2024

One existing fire hydrant is located immediately adjacent to the project site at the southwestern corner of the intersection of Shatto Place and 6th Street. The Los Angeles Fire Department, in its Interdepartmental Memo dated August 3, 2018 did not require any additional hydrants for the Approval Project.

Telecommunications

Per City of Los Angeles Substructure Map 101-3 an existing 1-1/2” telecommunication conduit owned and maintained by AT&T (formerly PTT) runs along the property frontage on Shatto Place connecting to an existing underground vault near the southeastern corner of the project site. Considering the Approved Project’s proposed street improvements on Shatto Place the existing conduit will be protected in place unless it is required to be removed by AT&T during the design process. Per the City of Los Angeles’ online GIS system “Geohub” there are no existing cellular towers located adjacent to the project site.

Proposed Development

Storm Drain – Approved Project

The project would be designed to comply with the City of Los Angeles’s Low Impact Development (LID) design standards. To facilitate this, the proposed stormwater Best Management Practices (BMPs) that are to be considered are rainwater harvesting and/or bio-infiltration flow-through planters. The entirety of the roof drains for the new mixed-use building and the existing church building will be diverted to the proposed stormwater BMPs and the overflow discharge will be discharged to Shatto Place and 6th Street via a curb drain or parkway drain. Based on the Geotechnical Report provided by Geotechnologies, Inc., dated January 24, 2019, groundwater was encountered and infiltration is not feasible.

Post-dedication, the total site area is approximately 1.28 acres in size. To comply with the Bureau of Sanitation’s Low Impact Development Standards the greater runoff volume between a 0.75-inch storm event and the 85th percentile storm event will be treated. Based on the proposed impervious area percentage of 94% the greater volume is generated by the 85th percentile storm: 3,936 cubic feet in volume. The section of the bio-infiltration flow-through planter would consist of 12” of ponding, 3’ of soil, and 12” of permeable material.

Storm Drain – Modified Project

Due to the increased total site area of approximately 1.52 acres and revised imperviousness of 95%, the 85th percentile storm runoff volume is 4,715 cubic feet in volume. In order to comply with the Bureau of Sanitation’s Low Impact Development standards, the project would implement several stormwater treatment options, such as a bio-filtration flow through planter system consisting of 12” of ponding, 3’ of soil media, and 12” of permeable material, and a rainwater harvesting system. The required BMPs, such as a bio-filtration flow through planter system or a rainwater harvesting system, shall be sized to collect the 85th percentile storm runoff volume based on Bureau of Sanitation Low Impact Development Standards. The rainwater harvesting system would be connected to the buildings’ irrigation system so that collected stormwater runoff would be re-used. The system is designed to capture runoff, store it within its chambers, and re-use it for irrigation.

	Approved Project	**Modified Project**
Proposed Site Area	1.28 acres	1.52 acres
85th Percentile Storm Volume	3,936 cubic feet	4,715 cubic feet
50-year peak discharge flow	3.37 cfs	4.00 cfs

Sanitary Sewer – Approved Project

Based on input from the project Applicant, a facility description was submitted to the City of Los Angeles for generation of a Sewer Capacity Availability Report. The Proposed Facility Description on the SCAR is summarized below:

Proposed Use Description	Sewage Generation Rate (GPD)	Per Unit	Qty	GPD
RESIDENTIAL: APT - BACHELOR	75	DU	2	150
RESIDENTIAL: APT – 1 BDRM	110	DU	150	16,500
RESIDENTIAL: APT – 2 BDRM	150	DU	92	13,800
RESIDENTIAL: APT – 3 BDRM	190	DU	8	1,520
RESTAURANT: FULL SERVICE INDOOR SEAT	30	DU	380	11,400

RESIDENTIAL: DUPLEX/TOWNHOUSE – 2 BDRMS	150	DU	4	600
OFFICE BUILDING	120	KGSF	2,507	301

PROPOSED TOTAL FLOW (gross):	**44,271 GPD**

The estimated proposed total flow based on the facility description is 44,271 gallons per day (gpd). This calculated flow does not net out existing uses that would be removed. The estimated existing sewer demand for the existing school to be removed is 1,360 gallons per day. The proposed points of connection to the existing public main lines will be determined by the Plumbing Engineer during design.

Sanitary Sewer – Modified Project

Based on revised input from the project Applicant, a facility description was submitted to the City of Los Angeles for generation of a Wastewater Service Information request (WWSI). The estimated proposed total flow based on the facility description is 80,986 gallons per day (gpd). This calculated flow does not net out existing uses that will be removed. The estimated existing sewer demand for the existing school to be removed is 1,360 gallons per day. The Modified Project would also remove the existing office building containing 27,843 square feet. The estimated existing sewer demand for the existing office building to be removed is 3,342 gpd. The calculated sewer demand of the school and office building uses to be removed is 4,702 gpd. The revised sanitary sewer demand is itemized below:

Proposed Use Description	**Sewage Generation Rate (GPD)**	**Per Unit**	**Qty**	**GPD**
RESIDENTIAL: APT - BACHELOR	75	DU	149	11,175
RESIDENTIAL: APT – 1 BDR	110	DU	138	15,180
RESIDENTIAL: APT – 2 BDR	150	DU	31	4,650
RESTAURANT: FULL SERVICE INDOOR SEAT	30 / SEAT	DU	380	11,400

PROPOSED TOTAL FLOW (gross):	**42,405 GPD**

	Approved Project (Gross)	Modified Project (Gross)**	Existing Sewage Generation due to Removed Uses at Modified Project*	Modified Project (Net)
Estimated Sewer Max Allowable Capacity	44,271 gpd	42,405 gpd	4,702 gpd	37,703 gpd

* Existing Sewage Generation was calculated based on the sum of existing demands of removed uses, including the existing office building and school
**The project's infrastructure will be designed to accommodate the gross sewer max allowable capacity.

The WWSI states that the existing sewer system may be able to accommodate the total flow for the proposed project and that further detailed gauging and evaluation will be needed via the SCAR process. Per the SCAR received from the Bureau of Sanitation the determination is that there is capacity available to handle the anticipated discharge from the proposed project.

Domestic/Fire Water – Modified Project

Updated Pressure Flow Reports were procured from LADWP and are summarized below:

- Shatto Place – 8-inch main line with a maximum pressure of 83 psi as of April 9, 2024
- 6th Street – 24-inch main line with a maximum pressure of 83 psi as of April 9, 2024

The calculated demand provided by the project's Plumbing Engineer of the proposed building is approximately 1,000 gallons per minute. The locations of the double detector check assembly and Fire department connection will be determined based on feedback from the City of Los Angeles Fire Department. LADWP will be coordinated with accordingly based on the final location both domestic and fire water points of connection. The existing domestic water connection for the existing building to be protected-in-place located along 6th St will be considered to be reused for the repurposed building. All new domestic water and fire water connections will connect to the existing main line along Shatto Place.

There are two existing public fire hydrants located adjacent to the project site. One is located 150 feet to the west on the northwestern corner of Shatto & 6th St. The other is located 100 feet to the north on the south eastern corner of Shatto & 5th St. The need for additional fire hydrants will be determined by the Los Angeles Fire Department based on LAMC 57.507.3.1 as summarized below:

SEC. 57.507.3.1. FIRE-FLOW REQUIREMENTS.

Fire-flows shall comply with Table 57.507.3.1 for any structures, group of structures or facilities by the type of land development, or as otherwise determined by the Chief.

1. Where street alignments mandate the installation of dead-end mains, the fire-flow in gallons per minute may be adjusted downward, depending on the type of land development.

2. A minimum residual water pressure of 20 pounds per square inch is to remain in the system with the required gallons per minute flowing.

EXCERPT OF TABLE 57.507.3.1
FIRE-FLOW BY TYPE OF LAND DEVELOPMENT

Type of Land Development	Fire-Flow in Gallons Per Minute
High Density Residential and Neighborhood Commercial	4,000 G.P.M. from four adjacent fire hydrants flowing simultaneously

APPENDICES

City of Los Angeles

Los Angeles Department of Water and Power - Water System

LOS ANGELES DEPARTMENT OF WATER & POWER

SAR NUMBER **105189**

Fire Service Pressure Flow Report

SERVICE NUMBER **644256**

For: **550 SHATTO PL**

Approved Date: **4-9-2024**

Proposed Service **6 INCH** off of the

24 inch main in **6TH ST** on the **NORTH** side approximately

150 feet **EAST** of **EAST** of **SHATTO PL** The System maximum pressure is

83 psi based on street curb elevation of **264** feet above sea level at this location.

The distance from the DWP street main to the property line is **57** feet

System maximum pressure should be used only for determining class of piping and fittings.

Residual Flow/Pressure Table for water system street main at this location

Flow (gpm)	Press. (psi)	Flow (gpm)	Press. (psi)	Flow (gpm)	Press. (psi)
0	57				
385	56				
560	55				
695	54				
810	53				
915	52				
1010	51				
1095	50				
1180	49				
1255	48				
1330	47				
1400	46				

Meter Assembly Capacities

Domestic Meters
1 inch = 56 gpm
1-1/2 inch = 96 gpm
2 inch = 160 gpm
3 inch = 220 gpm
4 inch = 400 gpm
6 inch = 700 gpm
8 inch = 1500 gpm
10 inch = 2500 gpm

Fire Service
2 inch = 250 gpm
4 inch = 600 gpm
6 inch = 1400 gpm
8 inch = 2500 gpm
10 inch = 5000 gpm

FM Services
8 inch = 2500 gpm
10 inch = 5000 gpm

These values are subject to change due to changes in system facilities or demands.

Notes: SAR approved for a 6-inch fire service with a 8-inch domestic combo. SAR run independently of SAR 105190.

This information will be sent to the Department of Building and Safety for plan checking.

This SAR is valid for one year from 04-09-24. Once the SAR expires, the applicant needs to re-apply and pay applicable processing fee.

For additional information contact the Water Distribution Services Section **CENTRAL (213) 367-1216**

DAVID THI	DAVID THI	134-198
Prepared by	**Approved by**	**Water Service Map**

City of Los Angeles

Los Angeles Department of Water and Power - Water System

SAR NUMBER **105190**

Fire Service Pressure Flow Report

SERVICE NUMBER **644257**

For: **550 SHATTO PL**

Approved Date: **4-9-2024**

Proposed Service **6 INCH** off of the

8 inch main in **SHATTO PL** on the **EAST** side approximately

200 feet **NORTH** of **NORTH** of **6TH ST** The System maximum pressure is

83 psi based on street curb elevation of **264** feet above sea level at this location.

The distance from the DWP street main to the property line is **63** feet

System maximum pressure should be used only for determining class of piping and fittings.

Residual Flow/Pressure Table for water system street main at this location

Flow (gpm)	Press. (psi)	Flow (gpm)	Press. (psi)	Flow (gpm)	Press. (psi)
0	56				
385	55				
560	54				
695	53				
810	52				
915	51				
1010	50				
1095	49				
1180	48				
1255	47				
1330	46				
1400	45				

Meter Assembly Capacities

Domestic Meters
1 inch = 56 gpm
1-1/2 inch = 96 gpm
2 inch = 160 gpm
3 inch = 220 gpm
4 inch = 400 gpm
6 inch = 700 gpm
8 inch = 1500 gpm
10 inch = 2500 gpm

Fire Service
2 inch = 250 gpm
4 inch = 600 gpm
6 inch = 1400 gpm
8 inch = 2500 gpm
10 inch = 5000 gpm

FM Services
8 inch = 2500 gpm
10 inch = 5000 gpm

These values are subject to change due to changes in system facilities or demands.

Notes: SAR approved for a 6-inch fire service with a 8-inch domestic combo at this location. SAR tested independenyly of SAR 105189.

This information will be sent to the Department of Building and Safety for plan checking.

This SAR is valid for one year from 04-09-24. Once the SAR expires, the applicant needs to re-apply and pay applicable processing fee.

For additional information contact the Water Distribution Services Section **CENTRAL (213) 367-1216**

DAVID THI	DAVID THI	134-198
Prepared by	**Approved by**	**Water Service Map**

City of Los Angeles
Bureau of Engineering

Sewer Capacity Availability Request (SCAR)

To: Bureau of Sanitation
The following request is submitted to you on behalf of the applicant requesting to connect to the public sewer system. Please verify that the capacity exists at the requested location for the proposed developments shown below. The results are good for 180 days from the date the sewer capacity approval from the Bureau of Sanitation.

Job Address: 550 Shatto Pl
Date Submitted: 2024-04-16
BOE District: Central District
Applicant: Ed Melo
Address: 700 S Flower St Unit 1200
State: California
Phone: (213)-596-4550
Email: ed.melo@bjsce.com
S-Map: S-493

Sanitation Scar ID:
Request Will Serve Letter?
Yes ☒ No ☐
City : Los Angeles
Zip: 90017
Fax:
BPA No.:
Wye Map: 135B197

SIMM Map - Maintenance Hole Locations

No.	Street Name	U/S MH	D/S MH	Diam. (in)	Approved Flow %	Notes
1	Shatto Pl	49316108	49316138	8in		

Proposed Facility Description

No.	Proposed Use Description	Sewage Generation (GPD)	Unit	Qty	GPD
1	Studio	75/DU	DU	149	11,175
2	1 Bedroom	110/DU	DU	138	15,180
3	2 Bedroom	150/DU	DU	31	4,650
4	Commercial	50/1000 gr SF	gr SF	21,482 SF	1074
5					

Proposed Total Flow (gpd): 32,079

CITY OF LOS ANGELES

CALIFORNIA

KAREN BASS
MAYOR

DEPARTMENT OF PUBLIC WORKS

BUREAU OF ENGINEERING

TED ALLEN, PE
CITY ENGINEER

1149 S BROADWAY, SUITE 700
LOS ANGELES, CA 90015-2213

http://engineering.lacity.gov

05/13/2024

ED MELO
700 S FLOWER ST UNIT 1200
LOS ANGELES, CA, 90017

Dear Ed Melo,

SEWER AVAILABILITY: 550 S SHATTO PL

The Bureau of Sanitation has reviewed your request of 04/19/2024 for sewer availability at **550 S SHATTO PL**. Based on their analysis, it has been determined on 05/13/2024 that there is capacity available to handle the anticipated discharge from your proposed project(s) as indicated in the attached copy of the Sewer Capacity Availability Request (SCAR) .

This determination is valid for 180 days from the date shown on the Sewer Capacity Availability request (SCAR) approved by the Bureau of Sanitation.

While there is hydraulic capacity available in the local sewer system at this time, availability of sewer treatment capacity will be determined at the Bureau of Engineering Public Counter upon presentation of this letter. A Sewer Connection Permit may also be obtained at the same counter provided treatment capacity is available at the time of application.

A Sewerage Facilities Charge is due on all new buildings constructed within the City. The amount of this charge will be determined when application is made for your building permit and the Bureau of Engineering has the opportunity to review the building plans. To facilitate this determination a preliminary set of plans should be submitted to Bureau of Engineering District Office, Public Counter.

Provision for a clean out structure and/or a sewer trap satisfactory to the Department of Building and Safety may be required as part of the sewer connection permit.

Lateral connection of development shall adhere to Bureau of Engineering Sewer Design Manual Section F 480. **If not listed in the Proposed Facility Description section of the SCAR, sewer ejector use is prohibited.**

Scar Request Number: 5780

Sincerely,

Trevor Quan

Central District, Bureau of Engineering

City of Los Angeles
Bureau of Engineering

SEWER CAPACITY AVAILABILITY REVIEW FEE (SCARF) - Frequently Asked Questions

SCAR stands for Sewer Capacity Availability Review that is performed by the Department of Public Works, Bureau of Sanitation. This review evaluates the existing sewer system to determine if there is adequate capacity to safely convey sewage from proposed development projects, proposed construction projects, proposed groundwater dewatering projects and proposed increases of sewage from existing facilities. The SCAR Fee (SCARF) recovers the cost, incurred by the City, in performing the review for any SCAR request that is expected to generate 10,000 gallons per day (gpd) of sewage.

The SCARF is based on the effort required to perform data collection and engineering analysis in completing a SCAR. A brief summary of that effort includes, but is not limited to, the following:

1. Research and trace sewer flow levels upstream and downstream of the point of connection.
2. Conduct field surveys to observe and record flow levels. Coordinate with maintenance staff to inspect sewer maintenance holes and conduct smoke and dye testing if necessary.
3. Review recent gauging data and in some cases closed circuit TV inspection (CCTV) videos.
4. Perform gauging and CCTV inspection if recent data is not available.
5. Research the project location area for other recently approved SCARs to evaluate the cumulated impact of all known SCARs on the sewer system.
6. Calculate the impact of the proposed additional sewage discharge on the existing sewer system as it will be impacted from the approved SCARs from Item 6 above. This includes tracing the cumulative impacts of all known SCARs, along with the subject SCAR, downstream to insure sufficient capacity exist throughout the system.
7. Correspond with the applicant for additional information and project and clarification as necessary.
8. Work with the applicant to find alternative sewer connection points and solutions if sufficient capacity does not exist at the desired point of connection.

Questions and Answers:

1. **When is the SCARF applied, or charged?**
   It applies to all applicants seeking a Sewer Capacity Availability Review (SCAR). SCARs are generally required for Sewer Facility Certificate applications exceeding 10,000 gpd, or request from a property owner seeking to increase their discharge thru their existing connection by 10,000 gpd or more, or any groundwater related project that discharges 10,000 gpd or more, or any proposed or future development for a project that could result in a discharge of 10,000 gpd.
2. **Why is the SCARF being charged now when it has not been in the past?**
   The City has seen a dramatic increase in the number of SCARs over 10,000 gpd in the last few years and has needed to increase its resources, i.e., staff and gauging efforts, to respond to them. The funds collected thru SCARF will help the City pay for these additional resources and will be paid by developers and property owners that receive the benefit from the SCAR effort.
3. **Where does the SCARF get paid?**
   The Department of Public Works, Bureau of Engineering (BOE) collects the fee at its public counters. Once the fee is paid then BOE prepares a SCAR request and forwards it to the BOS where it is reviewed and then returned to BOE. BOE then informs the applicant of the result. In some cases, BOS works directly with the applicant during the review of the SCAR to seek additional information and work out alternative solutions