The national 1-hour ambient air quality standard is 35.0 parts per million (ppm) and the State 1-hour ambient air quality standard is 20.0 ppm. The 8-hour national and State ambient air quality standard is 9.0 ppm.

Based on the analysis prepared for the Project, none of the intersections reviewed is expected to experience CO levels in excess of the allowable concentration of 20.0 ppm. The highest one-hour CO "hot spot" level is predicted to be 7.7 ppm (2013 With Project Conditions), which is below State and national standards. In addition, none of the intersections experience CO levels in excess of the 8-hour allowable concentration of 9.0 ppm; the highest predicted 8-hour concentration is 6.3 ppm. Because no CO hot spots would occur, the proposed project would not have a significant impact on local air quality for CO. Impacts associated with CO hot spots would be less than significant.

Greenhouse Gas Emissions. Global temperatures are regulated by naturally occurring atmospheric gases (referred to as greenhouse gases) such as water vapor, carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The effect each greenhouse gas has on climate change is measured as a combination of the volume of its emissions, and its global warming potential. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere, and is expressed as a function of how much warming would be caused by the same mass of CO_2. For instance, CH_4 has a global warming potential of 21, meaning that one gram of CH_4 traps the same amount of heat as 21 grams of CO_2. The Project would generate greenhouse gas emissions from the following activities:

- Short-term construction activity (fossil-fuel consumption);
- Electricity generation to provide power to hospital uses;
- Natural gas usage for hospital uses;
- Water consumption for hospital uses; and
- Vehicular-exhaust emissions from daily Project-related vehicular traffic.

Table 19 summarizes the CO_2 and CH_4 greenhouse gas emissions that would be generated by the construction of the proposed Project.

Table 19
Construction Greenhouse Gas Emissions (pounds/day)

Factor	Demolition	Grading	Building
Carbon Dioxide (CO_2)	7,230.83	9,266.58	5.489.09
Methane (CH_4)	1.20	0.57	0.82
Carbon Dioxide Equivalent (CO_2 EQ)	25.18	11.98	17.15

Source: *HMH Emergency Department and Vertical Expansion Air Quality Analysis*, Urban Crossroads, November 7, 2007, Table 5-1.

Table 20 summarizes the CO_2, N_2O, and CH_4 greenhouse gas emissions that would be generated by operations of the proposed Project. According to the California Energy Commission's *Inventory of*

Greenhouse Gas Emissions and Sinks[7] the State of California emitted approximately 492 million metric tons of CO_2 equivalent greenhouse gases in 2004.[8]

Table 20
Total Greenhouse Gas Emissions (Annual)[1]

Source	Carbon Dioxide (CO_2)	Nitrous Oxide (N_2O)		Methane (CH_4)	
	mtpy	mtpy	Mtpy CO_2 EQ[3]	mtpy	Mtpy CO_2 EQ[3]
Mobile Source Emissions	538.49	0.02	7.59	0.04	0.75
Natural Gas Emissions	326.19	0.01	1.85	0.01	0.13
Electricity Related Emissions	471.20	0.00	1.33	0.00	0.01
Water Related Emissions	9.97	0.00	0.03	0.00	0.01
Total	**1,345.85**	**0.03**	**10.80**	**0.04**	**0.90**

Notes: [1] Annual = average of summer and winter emissions, includes emissions from mobile and area sources.
[2] mtpy = metric tons per year.
[3] CO_2 EQ = Carbon Dioxide Equivalent., a measure used to compare the emissions from various greenhouse gases based upon their global warming potential
Source: *HMH Emergency Department and Vertical Expansion Air Quality Analysis*, Urban Crossroads, November 7, 2007, Table 5-2.

As shown in the previously mentioned Tables 19 and 20, construction and operation of the proposed Project would result in emissions of approximately 0.00136 million metric tons of CO_2 equivalent greenhouse gases, which would be approximately 0.00027 percent of California's total 2004 emissions. Greenhouse gas emissions associated with the proposed Project would represent a small fraction of total emissions.

There are no CEQA thresholds of significance established and this Initial Study does not provide a significance determination for greenhouse gas emissions. As noted previously, the Project would account for only a small fraction of a percent of California's greenhouse gas emissions. The relatively minor contribution of the Project to the State's total greenhouse gas emissions underscores the point that no individual project would likely have a measurable effect on greenhouse gas emissions; rather, it would be the cumulative effect of all the world's greenhouse gas emitters over time that would contribute to greenhouse gas-related climate change. It is noted that mitigation measures **AIR-1** through **AIR-4**, although directed specifically toward reducing NO_x emissions during construction, could also help reduce greenhouse gas emissions associated with the proposed Project during construction.

c. *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?* ( )

☐ ☒ ☐ ☐

[7] *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 - 2004, Staff Final Report,* U.S. California Energy Commission, December 2006.
[8] 2004 emissions are used for comparison, because emissions from this year are the most recently available. No emission totals from 2005 or 2006 are available.

Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

WHY? The Basin is a non-attainment area, as shown in Table 21, for ozone, $PM_{2.5}$, and PM_{10}. Projects that contribute to a significant cumulative increase in these pollutants to the Basin would contribute to the non-attainment status in the Basin.

Table 21
Attainment Status for South Coast Air Basin

Criteria Pollutant	State Designation	Federal Designation
Ozone – 1 hour standard	Extreme Non-attainment	Revoked June 2005
Ozone – 8 hour standard	Extreme Non-attainment	Non-attainment
PM_{10}	Serious Non-attainment	Non-attainment
$PM_{2.5}$	Non-attainment	Non-attainment
Carbon Monoxide	Attainment	Attainment*
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment	Attainment
All others	Attainment/Unclassified	Attainment

Note: * The USEPA granted the request to redesignate the Basin from non-attainment to attainment for the CO NAAQS on May 11, 2007, and became effective as of June 11, 2007.

Source: *HMH Emergency Department and Vertical Expansion Air Quality Analysis*, Urban Crossroads, November 7, 2007, Table 3-2.

Construction (including demolition and building construction) and operational activities associated with the Project would generate emissions. As previously discussed is response 5(b), the proposed Project would generate emissions of NO_x exceeding District thresholds during construction of the proposed Project. In addition, PM_{10} and $PM_{2.5}$ generated during construction would exceed LSTs. Emissions of all other criteria pollutants would not exceed any thresholds established by the District. The District established these thresholds in consideration of cumulative air pollution in the Basin. While construction activities would result in emissions exceeding standards, the implementation of mitigation measures **AIR-1** through **AIR-4** would reduce emissions of NO_x to below the District's significance threshold for construction and would reduce the emissions of PM_{10} and $PM_{2.5}$ during construction below the LST. Thus, with incorporation of mitigation measures, the Project would not exceed the District's thresholds and would not significantly contribute to cumulative air quality impacts. Impacts would be less than significant with the incorporation of mitigation measures **AIR-1** through **AIR-4.**

d. Expose sensitive receptors to substantial pollutant concentrations? ( )

☐	☒	☐	☐

WHY? Sensitive receptors are defined as populations that are more susceptible to the effects of pollution than the population at large.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

The District[9] identifies the following as sensitive receptors:

- Long-term healthcare facilities
- Rehabilitation centers
- Convalescent centers
- Retirement homes
- Residences
- Schools
- Playgrounds
- Childcare centers
- Athletic facilities

The proposed Project is located on the Huntington Memorial Hospital campus, and thus, is located adjacent to sensitive receptors. The existing medical office building that would be demolished as part of the Project is located approximately 100 feet east of the East Patient Tower; thus demolition activities would be occurring in very close proximity to sensitive receptors. Additionally, during the grading and building construction phases of the Project, construction activities would be occurring directly adjacent to the existing East Patient Tower.

As discussed in response 5(b) previously, construction emissions for NO_x would exceed the District's regional thresholds and the LST for PM_{10} and $PM_{2.5}$ would be exceeded during the demolition, grading, and building construction, resulting in a potentially significant impact for the sensitive receptors located within the East Patient Tower. With implementation of mitigation measures **AIR-1** through **AIR-4**, however, NO_x emissions would be reduced below the District's threshold during construction, and PM_{10} and $PM_{2.5}$ emissions would be reduced to below the LST. With the implementation of these mitigation measures, the Project would not result in the exposure of sensitive receptors to any pollutants in excess of District thresholds. Once completed, the Project would add additional sensitive receptors (more patients visiting the Emergency Department), however, since the site is located within the existing Hospital campus, and not adjacent to any large emission generators, it would not expose future patients to substantial pollutant concentrations. Impacts would be less than significant with the incorporation of mitigation measures **AIR-1** through **AIR-4.**

e. Create objectionable odors affecting a substantial number of people? ( )

☐ ☐ ☒ ☐

WHY? The District's *CEQA Air Quality Handbook* identifies land uses associated with odor complaints.[10] These land uses are:

- Agricultural uses (livestock and farming);
- Wastewater treatment plants;
- Food processing plants;
- Chemical plants;
- Composting operations;
- Refineries;
- Landfills;

[9] As a reminder to the reader, the District is the South Coast Air Quality Management District.
[10] South Coast Air Quality Management District, *CEQA Air Quality Handbook*, 1993, Figure 5-5.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

- Dairies; and
- Fiberglass molding facilities.

The Project does not contain land uses typically associated with emitting objectionable odors. The proposed Project has the potential to generate objectionable odors in the form of VOCs during the application of architectural coatings (painting) and during asphalt application, as well as diesel exhaust during construction of the Project. However, any odors generated during construction activities would be short-term in nature, and would be limited to the immediate area of usage. During the long-term usage of the Project site (operations), odors specific to and identifiable as medical uses may originate from the site; however, these odors would be similar to those already occurring at the Hospital, and would be a continuation of existing odors. Therefore, impacts associated with objectionable odors would be less than significant.

6. BIOLOGICAL RESOURCES. Would the project:

a. *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?* ( )

☐ ☐ ☐ ☒

WHY? The landscaped Project site, currently part of an existing Hospital campus, contains a private roadway, a medical office building, and an outdoor seating area. The Project is in a developed urban area and no known unique, rare or endangered plant or animal species or habitats occur on or near the site. No impacts associated with candidate, sensitive, or special status species would occur with implementation of the proposed Project.

b. *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?* ( )

☐ ☐ ☐ ☒

WHY? The Project is located within an urban area, and contains existing development. Vegetation present on the site is limited to ornamental landscaping. The Project site and surrounding area are completely developed and do not include any vegetation that constitutes a plant community. The proposed demolition and construction would occur on previously developed land that does not contain any riparian habitat or other sensitive natural community. No impact associated with this issue would occur with Project implementation.

c. *Have a substantial adverse effect of federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?* ( )

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Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

WHY? The Project site is located in an urban area and is completely covered with buildings, landscape, and hardscape. There is no naturally occurring wetland habitat present on the Project site, and no impact to wetlands would occur with the proposed demolition and construction.

d. *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?* ( )

☐ ☐ ☐ ☒

WHY? Located in a developed urban area, the Project site is surrounded by development on each side, and is not near any areas that would be considered wildlife corridors. The proposed Project would not result in a barrier to migration or movement of any wildlife species; therefore, no impacts to wildlife movement would occur with implementation of the proposed Project.

e. *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?* ( )

☐ ☐ ☒ ☐

WHY? Ordinance 6896, *City Trees and Tree Protection Ordinance*, protects biological resources in the City of Pasadena. Forty trees located within the Project boundaries would be removed; 28 of the 40 trees located within the Project boundaries are protected by the Ordinance as detailed in Table 22. Of those 28 trees, 13 trees (1 Magnolia and 12 Jacarandas) meet the size requirement for preservation.

Table 22
Trees Protected by *City Trees and Tree Protection Ordinance*

Common Name	Indian Laurel Fig	Maidenhair Tree	Jacaranda	Magnolia
Genus and Species	*Ficus microcarpa 'Nitida'*	*Ginkgo biloba*	*Jacaranda mimosifolia*	*Magnolia grandiflora*
Number of Trees to be Removed	3	10	14	1
Diameter (inches)	22	14	10 to 18	45
Diameter Size Required for Preservation (inches)	30	25	12	25
Size Requirement Met for Preservation?	No	No	Yes*	Yes

Note: * Twelve of the 14 Jacaranda trees that would be removed during Project construction meet the minimum size requirement of 12 inches. Two of the 14 Jacaranda trees have a diameter of 10 inches and do not meet the size requirement for preservation; thus, they would not require preservation pursuant to Ordinance 6896.

Sources: City of Pasadena, *Huntington Hospital Emergency Department and Vertical Expansion, Pre-Application Conference for Master Development Plan Amendment*, prepared by Freeman White, no date; *Supplement to Master Application Form*, July 2006; and Ordinance 6896, *City Trees and Tree Protection Ordinance*.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

Pursuant to Section 8.52.070(A) of the City's Tree Ordinance, the application for discretionary approval for the proposed Project is deemed to be an application for discretionary approval of a tree removal permit. As the Project is required to comply with the City's Tree Ordinance and is subject to approval of a tree removal permit, impacts would be less than significant.

f. *Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan?* ( )

☐ ☐ ☐ ☒

WHY? Currently, there are no adopted Habitat Conservation or Natural Community Conservation Plans within the City of Pasadena. There are also no approved local, regional or State habitat conservation plans. No impact associated with HCPs or NCCPs would occur.

7. CULTURAL RESOURCES. Would the project:

a. *Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?* ( )

☐ ☐ ☐ ☒

WHY? The medical office building located at 47 Congress Street is the only building within the Project boundaries proposed for demolition. The remainder of the area proposed for development presently contains an outdoor seating area, landscaping, and the privately funded, publicly accessible Fairmount Avenue.

The City has completed a "Design and Historic Preservation Review" of the Project.[11] The conclusion of the City's review determined that:

> *The one-story medical building at 47 Congress Street was built in 1954 in a plain design without architectural significance. The building is not designated as a historic resource and was not identified in the South Fair Oaks Specific Plan Historic Inventory as being eligible for such designation.*

While the Project would result in the demolition of the existing medical office building, it has been determined not to be historically significant, and there are no structures within the Project boundaries that have a significant historic value. The proposed Project would not cause a substantial adverse change in the significance of a historical resource and, therefore, would have no related impacts.

[11] *Design and Historic Preservation Review,* Darrell Cozen, City of Pasadena, data provided via email, dated August 8, 2007.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

b. *Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?* ( )

☐ ☐ ☒ ☐

WHY? There are no known prehistoric or historic archeological sites on the Project site. In addition, because the Project site is entirely developed, there are no undisturbed surface soils. The construction and grading of the site for the existing uses likely resulted in the removal or destruction of any surface archaeological resources that may have been present. Development of the proposed Project would involve minor grading to establish building pads and develop onsite infrastructure; however, the proposed grading would not encroach into previously undisturbed soils. Thus, impacts to archaeological resources would be less than significant.

c. *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?* ( )

☐ ☐ ☒ ☐

WHY? The Project site lies on the valley floor in an urbanized portion of the City of Pasadena. This portion of the City does not contain any unique geologic features and is not known or expected to contain paleontologicial resources. Additionally, as the Project site has already been developed, any paleontological resources located within the Project boundaries would have been discovered or inadvertently destroyed during soil disturbance associated with previous development. Although there may be some disturbance of native soils/formations that were previously not affected by construction, based on the footprint of the proposed Project and the level of previous activity (e.g., prior construction) at the site, the potential for affecting paleontological resources is considered low, and this impact is assessed as less than significant.

d. *Disturb any human remains, including those interred outside of formal ceremonies?* ( )

☐ ☐ ☒ ☐

WHY? There are no known human remains on the site. The Project site is not part of a formal cemetery, nor is it known to have been used for disposal of historic or prehistoric human remains. Soils on the Project site have been previously disturbed during development of the existing Hospital emergency room, roadway, and medical office building. Thus, human remains are not likely to be encountered during construction of the Project. In the unlikely event that human remains are encountered during Project construction, State Health and Safety Code Section 7050.5 requires construction activities to halt until the County Coroner has made the necessary findings as to the origin and disposition of the remains pursuant to Public Resources Code Section 5097.98. Compliance with these regulations would ensure that impacts associated with the discovery of human remains would be less than significant.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

8. ENERGY. Would the proposal:

a. Conflict with adopted energy conservation plans? ( )

☐ ☐ ☒ ☐

WHY? Implementation of the Project would involve compliance with energy standards in California Energy Code, Part 6 of the California Building Standards Code (Title 24). Measures to meet these performance standards may include high-efficiency Heating Ventilation and Air Conditioning (HVAC) and hot water storage tank equipment, lighting conservation features, higher than required rated insulation, and double-glazed windows. Compliance with Title 24 would ensure that the Project's impact on adopted energy conservation plans would be less than significant.

b. Use non-renewable resources in a wasteful and inefficient manner? ( )

☐ ☐ ☒ ☐

Why? During construction phases of the proposed Project, there would be short-term expenditure of natural resources (e.g., construction materials) and oil-based energy products (e.g., fuel, asphalt); however, their use would not cause a significant reduction in available supplies in the local or regional economy.

With the addition of square footage to the Emergency Department, energy resources, such as electricity provided by the Pasadena Department of Water and Power and gas provided by the Southern California Gas Company, would be used during long-term operations. The proposed Project, however, would not create such a high demand for energy that new sources would be required. Supplies are available from existing mains, lines, and substations in the area. In addition, the Project design would be required to adhere to performance standards contained in the California Energy Code, Part 6 of the California Building Standards Code Title 24.

The short-term consumption of natural resources and oil-based energy products and the long-term use of energy resources by the proposed Project would not be appreciably higher in relationship to the existing level of usage at the Hospital. Non-renewable resources would not be used in a wasteful or inefficient manner by the construction or operations of the proposed Project; impacts would be less than significant.

9. GEOLOGY AND SOILS. Would the project:

a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. ( )

☐ ☐ ☐ ☒

WHY? The City of Pasadena General Plan EIR (Figure 22) shows that several faults pass through the City:

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

- Sierra Madre
- San Gabriel
- Unnamed fault
- Raymond
- Eagle Rock

Of the faults listed, the Raymond (Hill) fault, located approximately 1.5 miles to the south of the Project site, is the only one in an Alquist-Priolo Earthquake Fault Zone. The City's 2002 Safety Element identifies three additional zones of potential fault rupture that are located within the City boundary, none of which are located in or adjacent to the Project site:

- Eagle Rock Fault Hazard Management Zone;
- Sierra Madre Fault Hazard Management Zone; and
- A possible active strand of the Sierra Madre fault.

As no fault is located within or adjacent to the Project boundaries, no impact associated with a fault rupture is expected to occur.

ii. Strong seismic ground shaking? ( )

☐ ☐ ☒ ☐

WHY? Like all of southern California, the Project site has been and would continue to be subject to ground shaking resulting from activity on local and regional faults. The City of Pasadena is in Seismic Zone 4, which has the highest earthquake danger.[12] The risk of earthquake damage is minimized, though, as new structures that are subject to inspection during construction are required to build according to the Uniform Building Code and other applicable codes. Structures for human habitation also must be designed to meet or exceed California Building Code standards (California Code of Regulations, Title 24) for Seismic Zone 4. Moreover, hospital construction plan review by the Office of Statewide Healthcare Planning and Development (OSHPD) and the Division of the State Architect would be required for the proposed Project.

In addition, the Alfred E. Alquist Hospital Facilities Seismic Safety Act (Alquist Act)[13] requires that acute care hospitals be designed and constructed to withstand a major earthquake and remain operational immediately after an earthquake. Following the 1994 Northridge earthquake, Senate Bill (SB) 1953 amended and furthered the Alquist Act. SB 1953 is part of the California Health and Safety Code and requires hospitals to evaluate and rate all general acute care hospital buildings for seismic resistance. Additionally, SB 1953 requires hospitals to utilize standards developed by the OSHPD to measure the ability of a building to withstand a major earthquake. SB 1953 has been updated three times in 2000 and once in 2006.[14]

While the Project site is likely to experience seismic ground shaking, Huntington Memorial Hospital, to be able to provide emergency services subsequent to a natural disaster, is required to meet strict seismic standards, such as those contained in the following:

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12 State of California, California Seismic Safety Commission, *Homeowners Guise to Earthquake Safety,* 2005 Edition, pages 7 and 38.

13 Alfred E. Alquist Hospital Facilities Seismic Safety Act 1983, Health and Safety Code, Division 107 Statewide Health Planning and Development, Part 7, Facilities Design Review and Construction, Chapter 1, Health Facilities, updated January 1, 2007.

14 State of California, Office of Statewide Health Planning and Development Facilities Development Division, Seismic Retrofit Program - SB1953, http://www.oshpd.state.ca.us/fdd/SB1953/index.htm, site accessed September 30, 2007.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

- Uniform Building Code;
- California Building Code;
- Alquist Act; and
- SB 1953 and its four amendments.

In addition, the proposed Project would be subject to OSHPD and Office of State Architect construction plan review. Potential impacts would be less than significant because of adherence to required standards associated with seismic ground shaking and strict construction plan reviews.

iii. Seismic-related ground failure, including liquefaction as delineated on the most recent Seismic Hazards Zones Map issued by the State Geologist for the area or based on other substantial evidence of known areas of liquefaction? ( )

☐ ☐ ☐ ☒

WHY? The Project site is not located within a Liquefaction Hazard Zone or a Landslide Hazard Zone, as identified by the State of California on the most recent Seismic Hazards Map (March 25, 1999). As the Project site is not located within an area identified for liquefaction hazards, and the Project is required to adhere to strict seismic standards required by the UBC, CBC, Alquist Act and SB 1953, no impact associated with liquefaction would occur with Project implementation.

iv. Landslides as delineated on the most recent Seismic Hazards Zones Map issued by the State Geologist for the area or based on other substantial evidence of known areas of landslides? ( )

☐ ☐ ☐ ☒

WHY? The Project site is not located within an area of previous landslide occurrence, as shown on Figure 22 of the *2004 Land Use and Mobility Elements EIR* and on the State of California Seismic Hazard Zones Map;[15] therefore, the Project site would have no impacts from seismic induced landslides.

b. Result in substantial soil erosion or the loss of topsoil? ( )

☐ ☐ ☒ ☐

WHY? During Project construction, soil would be exposed. Section 14.05.084 of the Pasadena Municipal Code, *Erosion and Sedimentation Control Design Report and Plans*, requires control of runoff from all construction sites to guard against erosion. As required of all projects within the City, soil displacement would be subject to the City's grading ordinance and Chapter 33 of the *2001 California Building Code* (CBC). Water erosion during construction would be minimized by:

- Limiting construction to periods of dry weather;
- Covering exposed excavated dirt during periods of rain; and
- Protecting excavated areas from flooding with temporary berms.

[15] California Geological Survey, State of California Seismic Hazard Zones, Pasadena Quadrangle, March 25, 1999.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

Soil erosion after construction would be controlled by implementation of an approved landscape and irrigation plan, which would be subject to Staff approval prior to the issuance of a building permit. As the Project would be required to adhere to the City's grading ordinance and the CBC, impacts would be less than significant.

c. *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?* ( )

☐ ☐ ☒ ☐

WHY? The Project site is not located within a Liquefaction Hazard Zone or a Landslide Hazard Zone, as identified by the State of California on the most recent Seismic Hazards Map (March 25, 1999) and is not located within areas where previous landslides have occurred (Figure 22 of the *2004 Land Use and Mobility Elements EIR* and the State of California Seismic Hazard Zones Map[16]). In addition, the developed Project is not located on a geologic unit or soil that is unstable or would become unstable as a result of the Project.

The Project would be required to follow established building standards, including the California Building Code (California Code of Regulations, Title 24), the Alquist Act, and SB 1953 requirements. Because the Project site is not located within an area that has been identified for stability hazards and is required to adhere to strict seismic standards, impacts associated with unstable geologic units would be less than significant.

d. *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?* ( )

☐ ☐ ☒ ☐

WHY? According to the 2002 adopted Safety Element of the City's General Plan, the Project site is underlain by alluvial material from the San Gabriel Mountains. The alluvial material consists primarily of sand and gravel in the low to moderate range for expansion potential. Compliance with established building standards, engineering practices, the Alquist Act, and SB 1953 requirements would result in less than significant impacts associated with expansive soils.

e. *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?* ( )

☐ ☐ ☐ ☒

WHY? The Hospital is connected and the proposed expansion would connect to an existing sewer system; therefore, analysis for soil suitability of septic tanks or alternative wastewater disposal systems would not be applicable, and the proposed Project would have no impacts.

[16] California Geological Survey, State of California Seismic Hazard Zones, Pasadena Quadrangle, March 25, 1999.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

10. HAZARDS AND HAZARDOUS MATERIALS. Would the project:

a. Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials? ( )

☐ ☐ ☒ ☐

WHY? Small amounts of potentially hazardous materials (e.g., fuel, paint products, lubricants, and solvents) may be used on the Project site during construction activities. During normal operations, the expanded Emergency Department would generate biomedical waste, which would be similar to that currently generated at the Hospital. Staff is familiar with the requirements of handling, transporting, and disposing of such waste. Other hazardous materials present on site during the operation of the Project would include hazardous materials associated with janitorial, maintenance, and repair activities (e.g., commercial cleaners, lubricants, and paints). These materials would be present in relatively minor quantities.

As discussed in the Project description, an existing underground storage tank, which is located in the landscaped area near the northeastern corner of the Congress Street/Fairmount Avenue intersection, would be removed. The existing tank is an overflow recovery tank and is only filled after it has rained or in the event of a helicopter fuel spill.

The tank would be removed as part of Project construction activities, and a new tank would be placed within the Project boundaries, in the landscaped area north of the realigned Fairmount Avenue. Neither the existing or new tank is or would be used routinely to store hazardous materials. In the event of a spill that would require transport and disposal of materials, such transport would be handled in accordance with applicable requirements.

The transport, use, and disposal of hazardous materials during the construction and operation of the proposed Project would be conducted in accordance with applicable State and Federal laws. Compliance with applicable laws and regulations would ensure that the impact associated with the routine transport, use, or disposal of hazardous materials would be less than significant.

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? ( )

☐ ☐ ☒ ☐

WHY? The proposed Project would not use, store, dispose of, or transport significantly large volumes of toxic, flammable, explosive, or otherwise hazardous materials that could cause serious environmental damage in the event of an accident. Small amounts of potentially hazardous materials may be used on the Project site during construction activities. Once construction activities at the site cease, hazardous materials would be limited to those that are already in use at the existing Hospital: biomedical waste and other materials associated with janitorial, maintenance, and cleaning activities. Because of the incremental increase in the amount of these hazardous materials present at the Project site, the potential for an accidental release of hazardous materials into the environment is present.

Any associated accidental release would likely be easily contained. Hazardous materials and hazardous waste on the site would be handled in accordance with applicable State and Federal laws, which would result in a less than significant impacts associated with an accidental release of hazardous materials into the environment.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

c. *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?* ( )

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WHY? The nearest school is a private school, Sequoyah School, located at 535 South Pasadena Avenue, approximately 0.2 mile northwest of the Project site. The proposed Project does not include any uses that would emit hazardous emissions. While some hazardous materials would be present on the site, the materials would be typical of those currently used at the Hospital and would be handled in accordance with applicable local, State, and Federal requirements. As the Project would not emit hazardous emissions and would handle hazardous materials in accordance with applicable requirements, impacts would be less than significant.

d. *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?* ( )

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WHY? The Project site contains a medical office building, outdoor seating area, landscaping, and a privately funded road, Fairmount Avenue. Current uses are not typically associated with hazardous materials or contamination, and the Project site is not located on the State of California Hazardous Waste and Substances Sites List of sites published by the California Environmental Protection Agency.[17]

In 2001, a Phase I Environmental Site Assessment (ESA)[18] was conducted for the 47 Congress Street building, which would be demolished as part of the proposed Project. No hazardous materials, no evidence of underground tanks or clarifiers, and no significant staining were observed at the building site during the investigation. As part of the Phase I ESA, samples were collected at the medical office building to determine the presence or absence of polychlorinated biphenyls (PCBs) and asbestos containing materials.

None of the samples that were collected indicated the presence of PCBs; however, asbestos was detected in exterior window putty and roof mastic. At the time of the Phase I ESA preparation, no action was recommended to remove the asbestos, as the asbestos containing materials were located on the exterior of the building, were self-contained, and were in good condition. However, as the proposed Project includes the demolition of this building, asbestos could be released, creating a health hazard. This is a potentially significant impact and requires mitigation. The implementation of mitigation measure **HAZ-1** would reduce impacts associated with the asbestos containing materials to a less than significant level.

HAZ-1 Prior to the issuance of demolition permits, the Project applicant shall retain an asbestos abatement contractor registered with the Division of Occupational Safety and Health. The asbestos abatement contractor shall be present on the Project site during the demolition of the medical office building located at 47 Congress Street and shall perform all portions of the work handling the asbestos containing materials. Any abatement or removal of asbestos containing materials shall be performed in accordance with applicable local, State, and Federal regulations.

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[17] Department of Toxic Substances Control, CORTESE list, http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm, site accessed September 17, 2007.

[18] *Phase I Environmental Site Assessment,* FERO Environmental Engineers, Inc., July 10, 2001.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

e. *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?* ( )

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WHY? The nearest airport is the El Monte Airport, located approximately 7.0 miles southeast of the Project site. The Project site is not located within the airport land use plan for the El Monte Airport or any other airport. Therefore, the proposed Project would not result in a safety hazard for people residing or working in the vicinity of an airport. No impact would occur.

f. *For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?* ( )

☐ ☐ ☐ ☒

WHY? The Project site is not within the vicinity of a private airstrip. Therefore, the proposed Project would not result in a safety hazard for people residing or working in the vicinity of a private airstrip. There would be no impacts.

g. *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?* ( )

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WHY? The City of Pasadena emergency response plan,[19] maintained by the Pasadena Fire Department, goes into effect at the onset of a major disaster (e.g., a major earthquake). The Fire Department is responsible for implementing the plan, and the Pasadena Police Department develops evacuation routes based on specific circumstance of the emergency.

Fairmount Avenue is a privately owned, publicly accessible two-way road through the existing Hospital campus. As part of the proposed Project, Fairmount Avenue between California Boulevard and Congress Street would be realigned approximately 120 feet to the east to accommodate the Emergency Department expansion. To reduce congestion around the emergency vehicle entrance of the Emergency Department, a portion of Fairmount Avenue would be changed to one-way traffic flowing south from the parking structure entrances south of California Boulevard to Congress Street during non-peak times. During peak travel times, two-way traffic would be electronically controlled along the realigned portion of Fairmount Avenue. Fairmount Avenue south of Congress Street would remain unchanged and would continue to allow two-way traffic access. During Project construction activities, Fairmount Avenue between California Boulevard and Congress Street would be closed to through traffic. Ambulances would access the Emergency Department via Congress Street.

Construction activities would prompt the closure of a privately owned one-block segment of Fairmount Avenue. After completion of construction activities, Fairmount Avenue would be re-opened, with one-way,

[19] City of Pasadena, *SEMS/NIMS Emergency Response Plan*, no date.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

southbound traffic during non-peak times, and electronically controlled two-way traffic during peak travel times. Several public roads currently provide access to the Hospital campus and would continue to do so:

- Congress Street;
- Fairmount Avenue south of Congress Street; and
- Pasadena Avenue.

The Project would not result in the placement of any barriers on existing public streets. While the Project would temporarily close a small section of Fairmount Avenue, other access to the Hospital would be available on nearby roads. The proposed Project, including all structures and facilities, would be designed, sited, constructed, and maintained in accordance with applicable emergency response evacuation standards set by the City.

Construction activities that may temporarily restrict vehicular traffic would be required to implement standard measures to facilitate the passage of persons and vehicles through and around any required road closures. To ensure compliance with zoning, building, and fire codes, the applicant is required to submit appropriate plans for plan review prior to the issuance of a building permit. Adherence to these requirements would ensure that the Project would have a less than significant impact on emergency response and evacuation plans.

h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? ( )

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WHY? According to Plate P-2 of the 2002 Safety Element, the Project site is not located in an area identified as having a moderate or very high fire hazard. The Project site is located within an urban area and is not located adjacent to any wildlands. Therefore, development of the proposed Project would not expose people or structures to a significant risk of loss, injury or death involving wild land fires. No impact would occur.

11. HYDROLOGY AND WATER QUALITY. Would the project:

a. Violate any water quality standards or waste discharge requirements? ( )

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WHY? The Regional Water Quality Control Boards (RWQCBs) of the State Water Resources Control Board are responsible for administering the Federal Clean Water Act on a regional level. Each of the RWQCBs has standards and waste discharge requirements for water quality that must be met during construction and during the life of a project. The City of Pasadena is within the jurisdiction of the Los Angeles RWQCB, which has adopted water quality objectives in its Stormwater Quality Management Plan (SQMP).[20] The SQMP is

[20] Final Environmental Impact Report (FEIR) Land Use and Mobility Elements of the General Plan, Zoning Code Revisions, and Central District Specific Plan, City of Pasadena, certified 2004, page 170.

designed to ensure that stormwater is in compliance with receiving water limitations. Stormwater generated by a development that complies with the SQMP does not exceed the limitations of receiving waters, and thus does not exceed water quality standards.

Section 402 of the Clean Water Act, which is known as National Pollution Discharge Elimination System (NPDES), ensures compliance with the SQMP. According to Section 402, municipalities are required to obtain Municipal Separate Storm Sewer Systems (MS4) permits for the water pollution generated by stormwater in their jurisdiction. Los Angeles County and 85 incorporated Cities therein (including the City of Pasadena) obtained an MS4 permit[21] from the Los Angeles RWQCB, most recently in 2001 (amended on September 14, 2006, by Order R4-2006-0074). With this MS4, each permitted municipality is required to implement the SQMP. In addition, as required by the MS4 permit, the City of Pasadena has adopted a Standard Urban Stormwater Mitigation Plan (SUSMP) Ordinance[22] to ensure that new developments comply with SQMP. This ordinance requires most new developments to submit a plan to the City that demonstrates how the project will comply with the City's SUSMP. As the proposed Project is adding more than 5,000 square feet of new building space, an SUSMP is required.

None of the proposed uses are point source generators of water pollutants, and thus, no quantifiable water quality standards apply to the Project. The proposed Project would add typical, urban, non-point-source pollutants to stormwater runoff (e.g., oil and grease, sediment). As discussed, these pollutants are permitted by the County-wide MS4 permit, and would not exceed any receiving water limitations. In addition, because the proposed Project meets the SUSMP requirement thresholds of the City, the applicant is required to submit and implement a SUSMP compliance plan. Compliance with the MS4 permit and SUSMP would ensure that the proposed Project would not violate any water quality standards or waste discharge requirements. Thus, impacts associated with waste discharge requirements would be less than significant.

b. *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?* ( )

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WHY? Raymond Groundwater Basin underlies the Project site. The Project would not install any groundwater wells, and would not otherwise directly withdraw any groundwater from the basin. In addition, there are no known aquifer conditions at the Project site or in the surrounding area that could be intercepted by excavation or development of the Project. As the Project site is currently developed and covered with mostly impermeable surfaces, the implementation of the Project would not result in a significant loss of permeable surface for groundwater recharge. Therefore, the proposed Project would not physically interfere with any groundwater supplies.

The current and future water supplier, Pasadena Department of Water and Power, obtains and would continue to obtain approximately 40 percent of its water supply from groundwater. Thus, the Project would indirectly withdraw groundwater; however, the proposed water usage from groundwater would be negligible in comparison to the entire usage provided to customers of the Department of Water and Power. The increase in water use at the Hospital would not cause significant impacts associated with the depletion of

[21] Municipal Separate Storm Sewer Systems Permit Number 01-182.

[22] City of Pasadena, *Pasadena Plan Submittal Requirements*, Permit Center, Storm Water Pollution Prevention Regulation Thresholds (SUSMP), http://www.ci.pasadena.ca.us/permitcenter/plansubreq/susmp.asp, site accessed September 17, 2007.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

groundwater supplies. Impacts to groundwater supply associated with the proposed Project would be less than significant.

c. *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?* ( )

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WHY? The Project site is currently developed with existing buildings, hardscape, and landscape. While the proposed Project would lead to the removal of some of the existing development on site, that development would be replaced with similar uses. Drainage of the Project site would remain relatively similar to current conditions. Storm flows would be directed to storm drains located within the realigned, privately owned Fairmount Avenue. Storm drains would also be installed to direct storm drainage from the building area toward Fairmount Avenue.[23] The Project site does not contain any discernable streams, rivers, or other drainage features. Development of the site would involve minor grading, but would not substantially alter the drainage pattern of the site or surrounding area.

The drainage of surface water from the Project site would be controlled by building regulations and directed toward the City's existing streets, flood control channels, storm drains, and catch basins. Prior to the issuance of a building permit, the applicant would be required to submit a site drainage plan to the Building Division and the Public Works Department for review and approval. This required approval ensures that the proposed drainage plan would be appropriately designed and that the proposed runoff would not exceed the capacity of the City's storm drain system. The proposed drainage of the site would not channel runoff onto exposed soil, would not direct flows over unvegetated soils, and would not otherwise increase the erosion or siltation potential of the Project site or any downstream areas.

With the realignment of the roadway, and construction of new building space, the Project would result in slight changes to the existing drainage pattern on the site. As previously discussed, the Project is required to adhere to NPDES requirements, including the County-wide MS4 permit and the City's SUSMP ordinance. In accordance with these requirements, the applicant would be required to submit a plan to the City that demonstrates how the Project would comply with the City's SUSMP. To comply with the SUSMP, the Project must implement Best Management Practices (BMPs) that reduce water quality impacts, including erosion and siltation, to the maximum extent practicable. Complying with the City's SUSMP and implementing the required BMPs would ensure that the proposed Project would not result in significant erosion or siltation impacts due to changes to drainage patterns. Impacts would be less than significant.

d. *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?* ( )

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WHY? As discussed, the Project would involve only minor changes in the site's drainage patterns and would not involve altering a discernable drainage course. With Project implementation, minor changes to

[23] City of Pasadena, *Huntington Hospital Emergency Department and Vertical Expansion, Pre-Application Conference for Master Development Plan Amendment*, prepared by Freeman White, no date.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

the site's drainage patterns are not expected to cause flooding. Additionally, the City's SUSMP Ordinance requires post-development peak stormwater runoff rates not to exceed pre-development peak stormwater runoff rates.

As the Project would not involve the significant alteration of a discernable watercourse, and post-development runoff discharge rates would not exceed pre-development rates, impacts associated with the alteration of existing drainage patterns in the area and flooding would be less than significant.

e. *Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?* ( )

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WHY? The proposed Project would incrementally increase runoff by exchanging a landscaped permeable area with an impermeable roadway. The Project would remove the landscaped area that is currently east of Fairmount Avenue and replace this with the realigned roadway, creating a small increase in impermeable surfaces on the Project site. However, as discussed in Sections 11.c and 11.d, compliance with the City's SUSMP Ordinance would ensure that post-development peak stormwater runoff rates would not exceed pre-development peak stormwater runoff rates. Therefore, the City's existing storm drain system could continue to adequately serve the proposed development.

Similarly, as discussed in Sections 11.a and 11.c, the Project would generate only typical, non-point source, urban stormwater pollutants, which are covered by the County-wide MS4 permit. The proposed Project, according to the City's SUSMP Ordinance, would be required to implement BMPs to reduce stormwater pollutants to the maximum extent practicable. Therefore, the proposed Project would not create runoff that would exceed the capacity of the storm drain system and would not provide a substantial additional source of polluted runoff. Impacts would be less than significant.

f. *Otherwise substantially degrade water quality?* ( )

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WHY? As discussed previously, the proposed Project would not be a point-source generator of water pollutants. The only long-term water pollutants expected to be generated on the site would be typical urban stormwater pollutants. Compliance with the City's SUSMP ordinance would ensure that typical urban stormwater pollutants would not substantially degrade water quality.

During construction activities, the Project has the potential to generate short-term water pollutants, including sediment, trash, construction materials, and equipment fluids. The County-wide MS4 permit requires that construction sites implement BMPs to reduce the potential for construction-induced water pollutant impacts. These BMPs include methods to prevent contaminated construction site stormwater from entering the drainage system and to prevent construction-induced contaminates from entering the drainage system. The MS4 permit identifies the following minimum requirements for construction sites that are located within Los Angeles County:

- Sediments generated on the Project site shall be retained using adequate Treatment Control or Structural BMPs;

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

- Construction-related materials, wastes, spills or residues shall be retained at the Project site to avoid discharge to streets, drainage facilities, receiving waters, or adjacent properties by wind or runoff;
- Non-stormwater runoff from equipment and vehicle washing and any other activity shall be contained at the Project site; and
- Erosion from slopes and channels shall be controlled by implementing an effective combination of BMPs (as approved in Regional Board Resolution No. 99-03), such as:
  - Limiting of grading scheduled during the wet season;
  - Inspecting graded areas during rain events;
  - Planting and maintenance of vegetation on slopes; and
  - Covering erosion susceptible slopes.

The State Water Resources Control Board (SWRCB) maintains a Statewide NPDES permit (General Construction Activity Storm Water Permit or General NPDES Permit) for all construction activities within California that result in 1.0 or more acres of land disturbance. Because the proposed Project involves more than 1.0 acre of land disturbance, the Project applicant is required to submit a Notice of Intent (NOI) to the SWRCB to comply with the State's General Construction Activity Storm Water Permit. This NOI must include a Storm Water Pollution Prevention Plan (SWPPP) that outlines the BMPs that would be incorporated during construction. These BMPs would minimize construction-induced water pollutants by:

- Controlling erosion and sediment;
- Establishing waste handling/disposal requirements; and
- Providing non-stormwater management procedures.

Compliance with the construction site requirements of an MS4 Permit and the General Construction Permit, as well as implementation of an SWPPP, would ensure that construction of the proposed Project would not substantially degrade water quality. Impacts would be less than significant.

g. *Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or dam inundation area as shown in the City of Pasadena adopted Safety Element of the General Plan or other flood or inundation delineation map?* ( )

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WHY? No portions of the City of Pasadena are within a 100-year floodplain identified by the Federal Emergency Management Agency (FEMA). As shown on FEMA Map Community Number 065050, the entire City is in Zone D, for which no floodplain management regulations are required. In addition, according to the City's Dam Failure Inundation Map (2002 Safety Element, Plate 3-1), the Project is not located in a dam inundation area. The Project also does not include the construction of any housing. As such, no impacts related to flooded housing would occur with implementation of the proposed Project.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

h. Place within a 100-year flood hazard area structures, which would impede or redirect flood flows? ( )

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WHY? No portions of the City of Pasadena are located within a 100-year floodplain, and no floodplain management regulations would be required. Thus, the proposed Project would not place structures within the flow of a 100-year flood, and the Project would have no related impacts.

i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? ( )

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WHY? As previously indicated, the entire City is in Zone D, for which no floodplain management regulations are required. The Project site is not situated in a dam inundation area (2002 Safety Element, Dam Failure Inundation Map, Plate P-2); therefore, the Project would not cause people or structures to be exposed to hazards associated with flooding as a result of the failure of a levee or dam. Impacts would be less than significant.

j. Inundation by seiche, tsunami, or mudflow? ( )

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WHY? The Project site is not located near or immediately adjacent to a lake or the Pacific Ocean; therefore, there would be no potential for inundation of the site by a seiche or tsunami.[24] Mudflows[25] would not have a high probability of occurring in the area. Because the Project site is not in close proximity to any large, enclosed bodies of water (i.e., ocean, lake, or river) and is generally flat with no nearby mountainous areas, potential impacts resulting from tsunamis, seiches, or mudflows would be less than significant.

12. LAND USE AND PLANNING. Would the project:

a. Physically divide an existing community? ( )

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WHY? The Project site is located within an urbanized area and is part of the existing Huntington Memorial Hospital campus. Land uses directly adjacent to the Project site include hospital uses to the north, south, and west, with a medical office building located adjacent to the Project boundary to the east. As the Project is surrounded by similar type uses, it would not physically divide an existing community; on the contrary, it

[24] A **seiche** is a wave or oscillation of the surface of water in an enclosed or semi-enclosed basin; a **tsunami** is a series of waves generated in the body of water by a pulsating or abrupt disturbance that vertically displaces water.

[25] A **mudflow** occurs when there is fast-moving water and a great volume of sediment and debris that surges down a slope, stream, canyon, arroyo, or gulch with tremendous force.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

would better serve existing and future patient load. Impacts associated with the division of an existing community would be less than significant.

b. *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?* ( )

☐	☐	☒	☐

WHY? The Project site has a General Plan designation of South Fair Oaks Specific Plan. The parcel located at 47 Congress Street is zoned IG/SP-2 (Industrial/Fair Oaks Specific Plan), and the remainder of the Project site is zoned PS (Public/Semi Public). The development of the Project site is governed by the Huntington Memorial Hospital Master Development Plan (MDP), which was approved in 1987. The 1987 MDP is a 40-year multi-phase hospital redevelopment project designed to provide newer, more efficient, and safer medical facilities. The MDP (Phase I) included construction of the following:

- 172,000 square-foot main hospital building;
- Two-level, 750-car partially underground parking garage; and
- Separate 61,000 square-foot, 80-bed psychiatric hospital.

As discussed in the Project description, the MDP was amended in 1994 and 2005. The 1994 Amendment allowed for the implementation of Phases II and III of the MDP. Phases II and III entailed the addition of approximately 593,000 square feet to the existing Hospital development over a period of five years. The 2005 Amendment adjusted the northeastern boundary of the Hospital campus to remove parcels at the southwest corner of the intersection of Fair Oaks Avenue and California Boulevard. Potential square footage for medical office building uses on these parcels was also removed from the MDP.

The proposed amendment to the MDP would allow for the development of the proposed Project by:

- Revising the MDP site plan to accommodate the private road realignment (Fairmount Avenue) and the Emergency Department and Vertical Expansion;
- Increasing the allowable floor area to accommodate the Expansion; and
- Establishing a height limit for the Expansion.

The 1987 MDP states (*Scope of Development*, Section II):

> *[A]t this point in time only Phase I of the program has been defined clearly with regard to the size and location of the facilities and the estimated date of phase completion. Subsequent project phases will be constructed over the remainder of the 40-year master plan time frame. It is anticipated that approximately 500,000 square feet of new construction will be added to the new hospital beyond Phase I. New construction will be undertaken in five to ten year increments, or as funds allow.*

While the proposed Project was not clearly defined in the MDP, future construction of addition hospital facilities was expected to be part of the 40-year plan. The existing Emergency Department was designed to serve approximately 30,000 patients annually, and is presently serving twice that annually (approximately

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

60,000 patients). Thus, an expansion is needed to accommodate the already over-capacity operations, and to accommodate an expected increase in patient load in the future. While the Project was not specifically identified in the MDP, future facilities and new construction were anticipated. With the approval of the proposed amendments to the MDP, the Project would be consistent with applicable land use plans including the General Plan, zoning, and the MDP. For this reason, impacts would be less than significant.

c. *Conflict with any applicable habitat conservation plan (HCP) or natural community conservation plan (NCCP)?* ( )

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WHY? Currently, there are no adopted Habitat Conservation or Natural Community Conservation Plans within the City of Pasadena. There are also no approved local, regional, or State habitat conservation plans. As such, no impact would occur.

13. MINERAL RESOURCES. Would the project:

a. *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?* ( )

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WHY? No active mining operations exist in the City of Pasadena. Eaton Wash and Devils Gate Reservoir are the only two areas within the City that have been identified as potentially containing mineral resources, and the Project site is not located within either of these. The Project site is currently developed with a Hospital. Thus, implementation of the proposed Project would not result in the loss of availability of any known mineral resources. No impact would occur.

b. *Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?* ( )

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WHY? The Project site contains existing Hospital uses. No mineral recovery sites are identified within the City's 2004 General Plan Land Use Element, no active mining operations exist within the City, and mining is not currently allowed within any of the City's designated land uses. No impacts to locally important mineral resources would occur with implementation of the proposed Project.

14. NOISE. Would the project result in:

a. *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?* ( )

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Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

WHY? The proposed Project would generate construction and operational noise. During Project construction, the demolition of the existing medical office building (located at 47 Congress Street) and the construction of the building expansion would generate noise. During the long-term operation of the Project, noise would be generated in the form of traffic noise, parking lot activity, pedestrian noise, and mechanical equipment.

As shown on Figure 1 of the City of Pasadena Noise Element,[26] certain noise levels have different levels of acceptability for hospitals:

- Up to 65 decibels on the A-weighted scale (dBA) Community Noise Equivalent Level (CNEL)[27] is "clearly acceptable";
- Up to 70 dBA CNEL is "normally acceptable" without special noise insulation requirements;
- Up to 80 dBA CNEL is "conditionally acceptable" with an analysis of the noise reduction requirements and necessary noise insulation features;
- Greater than 80 dBA CNEL is identified as "clearly unacceptable."

A "normally acceptable" designation indicates that standard construction can occur with no special noise reduction requirements. Conventional construction methods, with closed windows and fresh air supply systems (e.g., air conditioning) normally suffice for the "conditionally acceptable" condition.

Chapter 9.36 of the Pasadena Municipal Code contains noise restrictions, including several that would be applicable to the proposed Project:

- Near schools, hospitals, and churches (Section 9.36.080);
- Machinery, equipment, fans, and air conditioning (Section 9.36.100);
- Construction projects (Section 9.36.110);
- Construction equipment (Section 9.36.120); and
- General noise sources (Section 9.36.230).

Section 9.36.080 prohibits the generation of noise that "unreasonably interferes with the workings of such institution or which disturbs or unduly annoys patients in the hospital," and Section 9.36.100 states that it is:

> [U]*nlawful for any person to operate any machinery, equipment, pump, fan, air conditioning apparatus or similar mechanical device in any manner so as to create any noise which would cause the noise level at the property line of any property to exceed the ambient noise level by more than 5 decibels.*

Section 9.36.110 limits construction activities to normal working hours (7 a.m. to 7 p.m. Monday through Friday, 8 a.m. to 5 p.m. on Saturday, in or within 500 feet of a residential area). As the Project is not located within 500 feet of a residential area, this section of the City's code would not apply to the Project. Section

[26] City of Pasadena Revised Noise Element of the General Plan, Existing and Future Conditions, December 2002, Figure 1.

[27] Measuring with dBAs puts less emphasis on low and very high frequencies of sound, thus duplicating more closely the way the human ear responds to sound. This gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. CNEL is the time varying noise over a 24-hour period, with a five dBA weighting factor applied for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and a 10-dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours).

9.36.120 prohibits the operation of any construction equipment that would emit noise levels in excess of 85 dBA when measured within a radius of 100 feet from such equipment. Section 9.36.230 has broad prohibitions:

> A. *It is unlawful for any person to create, cause, make or continue to make or permit to be made or continued any noise or sound which exceeds the ambient noise level at the property line of any property by more than 5 decibels or the noise levels as specified in Section 9.36.030* [Presumed ambient noise level].
>
> B. *Notwithstanding any other provision of this chapter and in addition thereto it shall be unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary or unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area. ...*

Construction Noise

Construction activities associated with the Project include the demolition of the existing medical office building and the construction of the new structure. These two activities would generate different types of noise levels. The nearest sensitive receptors to the construction noise would be patients admitted within the East Patient Tower, the building that houses the Emergency Department. As the eastern facade of East Patient Tower would be closest to construction activities, this area would also be exposed to the highest noise levels.

Demolition Activities. Demolition of the medical office building located at 47 Congress Street would require the use of a variety of construction equipment (previously referenced Table 4). To analyze the worst-case scenario of noise impacts associated with demolition activities, the loudest noise levels would be generated by the operation of two excavators, a breaker, and a bulldozer. While other construction equipment may be in operation concurrently, compared to these pieces of equipment, their noise level would be negligible.

Noise levels up to 79.8 dBA during demolition activities would occur at the eastern façade of the East Patient Tower building. Buildings (without open windows) generally provide attenuation of 20 dBA; thus, interior noise levels during demolition would reach levels of up to 59.8 dBA (78.8 dBA less 20 dBA = 59.8 dBA). This noise level is within the "clearly acceptable" range, as identified on Figure 1 of the City's Noise Element. However, due to the sensitive nature of patients that would be exposed to these noise levels, mitigation measures **NOISE-1**, which applies to all demolition, grading, and construction activities that would occur at the site, and **NOISE-2**, which applies to demolition activities, shall be implemented to reduce noise levels associated with demolition activities.

NOISE-1 All demolition, grading, and construction activities shall be limited to the hours of 7:00 a.m. to 6:00 p.m., Monday through Friday and from 8:00 a.m. to 5:00 p.m. on Saturdays. No demolition, grading, or construction activities shall occur on Sundays or on federal holidays (as defined in the City of Pasadena Municipal Code Section 9.36.110 E).

NOISE-2 Prior to commencement of demolition activities, the Construction Contractor shall install a temporary sound barrier capable of achieving a 20-dBA reduction in noise levels for the nearest sensitive receptors at the site.

Building Construction Activities. During construction of the proposed building addition, noise levels would be generated on the Project site by construction equipment, including an excavator, which would be the loudest piece of equipment. Construction equipment noise would generate noise levels of up to 88.6 dBA at the eastern facade of the East Patient Tower. Buildings (without open windows) generally provide attenuation of 20 dBA; thus, interior noise levels would reach levels of up to 68.6 dBA. Noise levels up to 70 dBA are identified as "normally acceptable" for hospital uses on Figure 1 of the City's Noise Element. As building construction noise levels associated with the Project would be within the "normally acceptable" range, the impact would not be significant. However, due to the sensitivity of patients in the Hospital, mitigation measures **NOISE-1,** which applies to all demolition, grading, and construction activities that would occur at the site, and **NOISE-3**, which applies to the building construction period, shall be implemented to further reduce noise levels.

NOISE-3 Prior to the commencement of building construction, the Construction Contractor shall install a temporary sound barrier capable of achieving a 20-dBA reduction in noise levels for the nearest sensitive receptors at the site.

Operational Noise

The Emergency Department is currently serving approximately 60,000 patients annually. With construction of the proposed Project, the Emergency Department would be able to accommodate 90,000 patients annually. This increase in patients would add to traffic levels in the area, resulting in increased traffic noise. Table 23 identifies current and future traffic noise levels in the Project vicinity, and the difference that would be attributable to the proposed Project. Traffic noise increases along area roadways would be less than 3 dBA for all roadways except Congress Street (4.1 dBA). As a noise level increase of less than 3 dBA is imperceptible to the human ear, the future Project traffic noise would not be perceptible except at Congress Street.

Table 23
Current and Future Traffic Noise Levels

Roadway	Current Peak Hourly Traffic	Future Peak Hourly Traffic	Current Peak Hour (dBA)*	Future Peak Hour (dBA)*	Difference (dBA)
California Boulevard	1,488	1,757	65.0	65.7	0.7
Bellefontaine Street	397	467	59.2	59.9	0.7
Saint John Avenue	1,336	1,486	64.5	65.0	0.5
Pasadena Avenue	2,165	2,419	66.6	67.1	0.5
Fairmont Avenue	321	420	58.3	59.5	1.2
Fair Oaks Avenue	2,104	2,645	66.5	67.5	1.0
Raymond Avenue	539	781	60.6	62.2	1.6
Arroyo Parkway	2,373	2,691	68.0	68.6	0.6
Congress Street	130	339	54.4	58.5	4.1

Note: *At 50 feet from roadway centerline.
Source: *Final Traffic Impact Study, HMH Emergency Department Expansion Project*, City of Pasadena, California, prepared by Linscott, Law & Greenspan, October 10, 2007.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

The addition of Project traffic noise of 4.1 dBA along Congress Street would produce noise levels up to 58.5 dBA CNEL. As discussed previously, building materials would result in a 20-dBA reduction in noise levels; thus, the increase in roadway traffic noise along Congress Street would result in a maximum interior noise level of 38.5 dBA (58.5 less 20 dBA = 38.5 dBA) inside the future Emergency Department building (the nearest sensitive receptor). Other uses immediately adjacent Congress Street include a medical office building and parking structure on the south side, and medical office buildings on the north. Traffic noise levels of up to 58.5 dBA would be acceptable for these uses, and noise levels would be attenuated by approximately 20 dBA for people who are inside these buildings. Traffic noise levels along Congress Street would not result in levels in excess of interior standards.

With increased Project traffic, there would be an increase in parking lot activity noise (e.g., employees and visitors conversing and car doors slamming) and in noise associated with pedestrian activity. Parking for the Project would be accommodated in the existing parking structure located south of Congress Street. Parking could also be provided in the North parking Garage, the East Parking Garage, and the Pasadena Avenue Lot. Due to the Project's location within an urbanized area, and the existing activity in parking structures, impacts associated with increased parking lot noise would be less than significant.

Mechanical equipment associated within the proposed Project would be enclosed on the top floor of the new building. The mechanical penthouse space would house the heating, ventilating, and air conditioning (HVAC) equipment and other necessary mechanical equipment. As the new mechanical equipment would be enclosed within a structure, would be located on a floor separate from patients, and would be comparable to existing mechanical equipment at the Hospital, noise impacts associated with mechanical equipment would be less than significant.

b. *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?* ( )

☐ ☐ ☒ ☐

WHY? The Project site is located approximately 0.2 mile (1,050 feet) west of the Los Angeles Metropolitan Transportation Authority (Metro) Gold Line system. This light rail system has been designed to limit excessive groundborne vibration to surrounding land uses, and no significant vibration levels are experienced outside of the railway's right-of-way. Therefore, the proposed Project would not be significantly affected by existing groundborne vibration from the Metro Gold Line. For this reason, impacts associated with groundborne vibration would be less than significant.

c. *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?* ( )

☐ ☐ ☒ ☐

WHY? Permanent increases in noise levels would occur during the long-term operation of the Project site. These increases in noise would come from traffic noise, parking lot activity, pedestrian noise, and mechanical equipment. As discussed previously in response 14(a), noise impacts associated with traffic, parking lot activity, pedestrian activity, and mechanical equipment would be less than significant. A substantial permanent increase in ambient noise levels in the Project vicinity would not occur as a result of the proposed Project; therefore, impacts would be less than significant.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

d. *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?* ( )

☐ ☒ ☐ ☐

WHY? Temporary increases in ambient noise levels would occur during Project construction activities. As discussed in response 14(a), demolition and construction activities associated with the Project would generate noise levels up to 88.6 dBA. With building attenuation of 20 dBA, noise levels generated would be up to 68.6 dBA inside the building.

Noise levels up to 70 dBA are identified as "normally acceptable" for hospital uses on Figure 1 of the City's Noise Element. As building construction noise levels associated with the Project would be within the "normally acceptable" range, the periodic increase in ambient noise levels would not be significant.

However, to minimize disturbances to patients, mitigation measures **NOISE-1** through **NOISE-3**, which limit construction hours and require the installation of temporary sound barriers, would further reduce temporary increases in ambient noise levels. The proposed Project would be required to adhere to City regulations governing noise levels generated by construction (Section 9.36.120) and mechanical equipment (Section 9.36.100). As the Project would be required to adhere to established City standards and the previously discussed mitigation, and as noise levels generated would be within the "normally acceptable" range, impacts would be less than significant.

e. *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?* ( )

☐ ☐ ☐ ☒

WHY? The nearest airport is the El Monte Airport, located approximately 7.0 miles southeast of the Project site. The Project site is not located within the airport land use plan for the El Monte Airport or any other airport, nor is it located within 2.0 miles of any airport. The proposed Project would not cause persons to be exposed to excessive noise levels associated with aircraft; therefore, no impact would occur.

f. *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?* ( )

☐ ☐ ☐ ☒

WHY? No private-use airports or airstrips are located within the City of Pasadena. The Project site is not located within the vicinity of any private airstrips and would not result in the exposure of persons working at the Project site to excessive noise levels associated with aircraft activity. No impact would occur.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

15. POPULATION AND HOUSING. Would the project:

a. *Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?* ( )

☐ ☐ ☒ ☐

WHY? The proposed Project, located within the existing Hospital campus in an urbanized area, would be consistent with land use designations for the site. Existing infrastructure, which would serve the expansion, is already present in the area. Although the Hospital is designed to serve approximately 30,000 patients annually, the Emergency Department is presently serving twice that number, or approximately 60,000 patients annually. The proposed expansion is proposed to accommodate current and future increases in patient load. The Emergency Department and Vertical Expansion Project has an anticipated patient demand of 65,000 to 75,000 patients during the estimated completion year (2011); however, it is designed to ultimately accommodate approximately 90,000 patients annually. The proposed Project does not include the construction of any residential uses that would directly increase population of the City.

The Project would create approximately 60 new jobs. Those either already residing in the City or able to commute to work in Pasadena would likely fill many of the new jobs. According to Southern California Association of Governments 2010 growth projections, an estimated 108,096 jobs would be located within the City. The addition of 60 jobs (0.056% of the City's projected increase) would not lead to substantial population growth in the City. Additionally, according to the California Department of Finance, the City of Pasadena currently has a total of 56,753 housing units within the City, with approximately 2,270 of these units vacant. Any employees who may relocate to the City could be housed within existing vacant units; no new housing would need to be built to house potential new employees.

The proposed Project would be located in a developed urban area with an established roadway network and in-place infrastructure, so development of the proposed Project would not require extending or improving infrastructure in a manner that would facilitate off-site growth. Therefore, the proposed Project would not induce substantial population growth, and impacts would be less than significant.

b. *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?* ( )

☐ ☐ ☐ ☒

WHY? The Project site does not contain any existing dwelling units, and the proposed Project would not displace any residents or housing. No impact associated with this issue would occur.

c. *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?* ( )

☐ ☐ ☐ ☒

WHY? The Project site is currently used for hospital uses and a medical office building. While the proposed Project includes demolition of the existing medical office building, it does not include the demolition of any

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

housing. No displacement of residents would occur with Project implementation, and no impact would occur.

16. **PUBLIC SERVICES.** Will the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a. *Fire Protection?* ( )

☐ ☐ ☒ ☐

WHY? The Pasadena Fire Department provides fire protection services to the Project site. Fire Station 31, located at 135 South Fair Oaks Boulevard, is approximately 0.6 mile north of the Project site. The proposed Project would incrementally increase the total square footage of the Hospital, which may incrementally increase fire service demand; however, the Project is not large enough to warrant a need for additional new or altered fire protection services and would not alter acceptable service ratios or response times. The newly constructed building space would include fire sprinklers and would be constructed using "fire resistive materials" (UBC Construction, Type 1); therefore, impacts to fire protection services would be less than significant.

b. *Libraries?* ( )

☐ ☐ ☒ ☐

WHY? The Central Library, at 285 East Walnut Street, is located approximately 1.0 mile northeast of the Project site. The proposed Project would not instigate a direct population increase within the City; therefore, it would not cause significant impacts to library services within the City. Library impacts would be less than significant.

c. *Parks?* ( )

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WHY? The Project site is located less than 1.0 mile from four City parks:

- Singer Park;
- Pasadena Central Park;
- Pasadena Memorial Park; and
- Lower Arroyo Park.