

SITE DEVELOPMENT PLAN FOR PA1 ORCHARD HILLS DEVELOPMENT IRVINE, CALIFORNIA

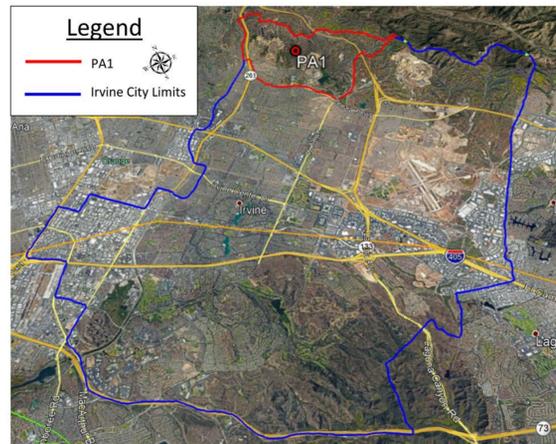
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PROJECT OVERVIEW

MCR Engineering is tasked with planning a site development on PA1 located in Irvine, California. The proposed land is to serve the public through conservation, art, and education. Hotels, an observatory, museum, and concert hall is planned to elevate the City of Irvine and cater to the current residence, as well as, the tourists coming from neighboring cities. MRC Engineering's primary theme is Environmental Engineering, with Structural influences.

PROJECT SITE LOCATION

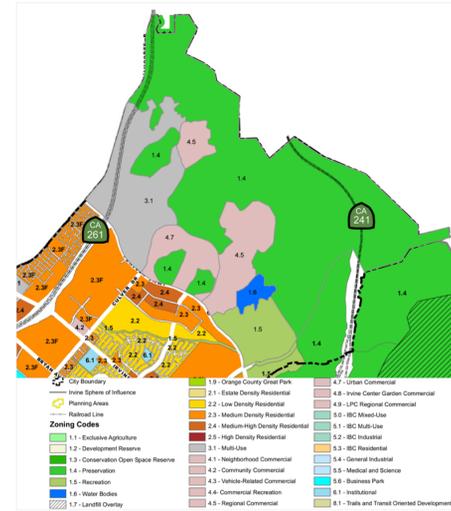
Irvine's Planning Area 1 (PA1) is located in the northernmost corner of the city's limits, neighboring North Tustin and Santiago Canyon. It is bounded by Jamboree Road to the northwest, the Loma Ridge to the northeast, Jeffrey Road to the southeast, and Portola Parkway to the southwest. It contains a large mountainous region to the northeast and lies 6.5 miles from the nearest fault line. The figure below displays its location within the city.



SITE CONSTRAINTS

- Access to water through high elevations.
- Irvine codes and regulations.
- Traffic Flow in and out of PA 1 land.
- Geotechnical factors for building the multiple attractions.
- Environmental impacts and restrictions.

ZONING AND LAND USE



Land Type	Proposed Land Use	Percent Use	Acres
Commercial, Retail, and Service Uses Located Independently	Hotel	11.51%	450
	General Retail	12.15%	475
Office and Research and Development Uses	Office	5.61%	219.5
	Observatory	0.04%	1.5
	Museum	0.08%	3
Miscellaneous Uses	Concert Hall	0.10%	4
	Recreational Park	8.31%	325
Public Park and Recreational Facilities	Water Resource	1.02%	40
	Reservoir	0.97%	38
Storage	Automobile Parking Lots/Structures	0.64%	25
	Nature Preserve	59.58%	2330
Other			
Conservation			
	Total	100.00%	3911

ENVIRONMENTAL AND TRAFFIC IMPACT

MCR Engineering has created a site development plan for the PA1 land area, in the City of Irvine, that will be in full compliance with potential environmental and traffic impacts of these new attractions. MCR Engineering has taken into account the existing wildlife that inhabits the nature preservation of the land and make sure their habitats are not negatively affected by the new developments. In order to do so, the team has strategically placed the new developments at the west of the site to maximize the nature preserve land. Considering possible noise excessiveness, the team placed the observatory and museum closest to the reserve since they would ultimately generate the least noise. The goal in environmental impacts is to be in full compliance with the California Environmental Quality Act (CEQA) legislation. In conjunction with our traffic engineers and the Traffic Impact Study Guidelines of the City of Irvine, our team has a plan to modify the routes to ensure that the in-and-out flow of vehicles is not overly congested even at peak traveling hours. Assuring the site has the proper traffic signal operations and ideal street layouts. Lastly, to incorporate environmental consciousness with traffic impacts, our team will be using road pavement materials that consist of recycled components.

INFRASTRUCTURE ELEMENTS

Structural

- ❖ Building super-sealing
- ❖ Building super-insulation
- ❖ Solar photovoltaic panel
- ❖ Integration of reclaimed water within utilities
- ❖ Integration of sound-insulating materials
- ❖ Self-sustaining landscaping

Transportation

- ❖ Intelligent transportation systems
- ❖ Conventional bicycle lane
- ❖ Conventional bus lane
- ❖ EV public transit
- ❖ EV Charging station

Hydrology

- ❖ Flood prevention/control
- ❖ Storm water runoff treatment centers
- ❖ Efficient roadway drainage

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CONTACT INFORMATION

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