



University of California, Riverside
February 2007

**ENVIRONMENTAL HEALTH & SAFETY
EXPANSION PROJECT**

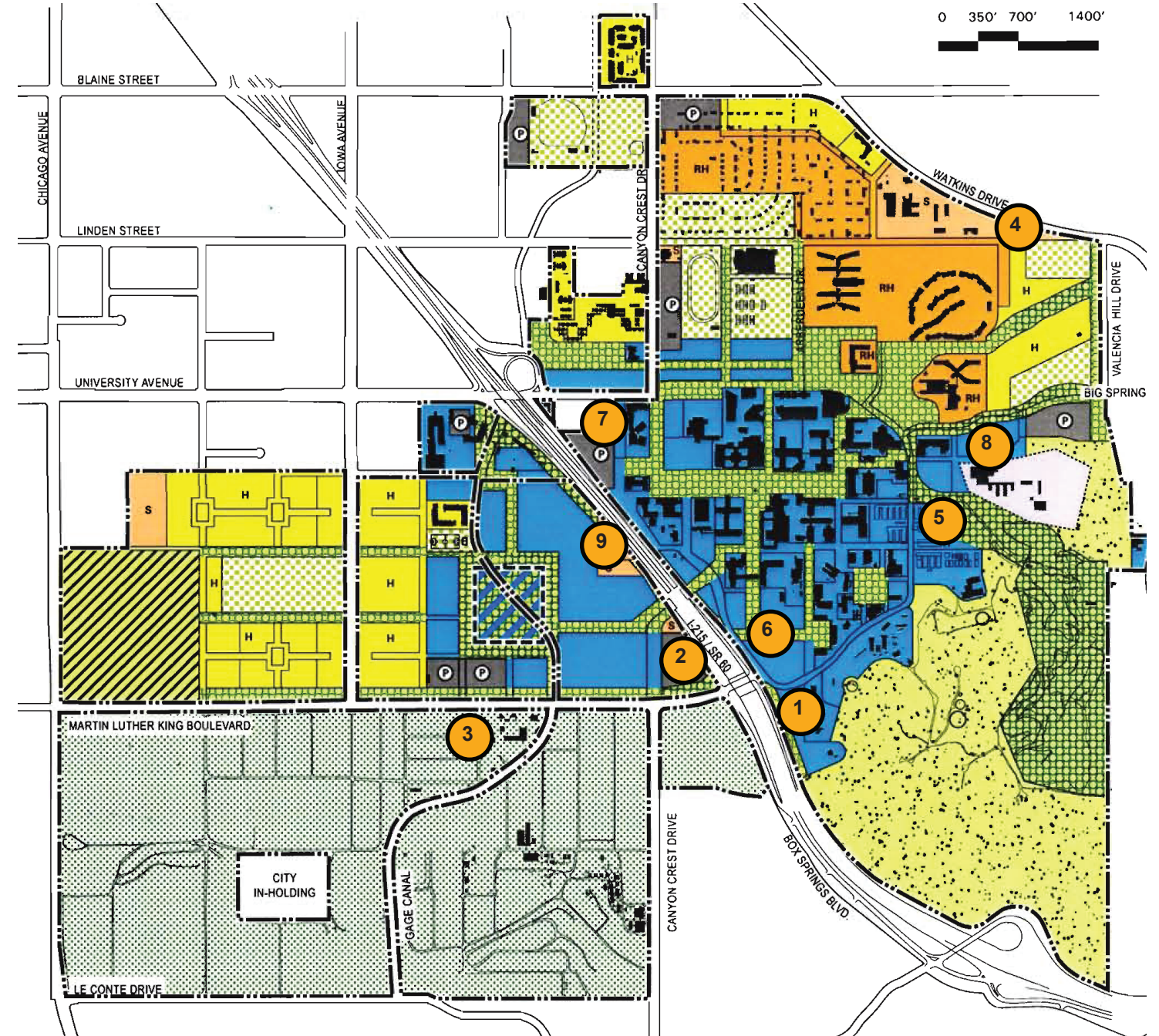
SITING STUDY

Prepared by:
SRG PARTNERSHIP INC
ARCHITECTURE PLANNING INTERIORS
PORTLAND, OREGON





- 1** EXISTING SITE
- 2** CAL-TRANS LAY-DOWN AREA
- 3** AGRICULTURAL OPERATIONS
- 4** EAST OF TAPS (TRANSPORTATION and PARKING SERVICES) (PROPOSED)
- 5** GREENHOUSES VICINITY
- 6** PARKING LOT 6
- 7** LDS STUDENT CENTER SITE
- 8** PARKING LOT 13
- 9** TRANSFORMER SUBSTATION
- CAMPUS BOUNDARY



2005 Long Range Development Plan (LRDP)

LEGEND	
Academic	Open Space Reserve
Special Academic Building Area	Campus Reserve
Family, Apartment Housing and Related Support (Including Child Care)	Agricultural, Teaching, and Research Fields
Residence Hall and Related Support	Non-Institutional Agencies
Athletics and Recreation	Campus Support
Open Space	Parking
	Campus Boundary

Executive Summary

INTRODUCTION

The University of California, Riverside (UCR) completed a site selection process as part of the Detailed Project Program (DPP) in 2004 to identify the appropriate location for the new Environmental Health and Safety (EH&S) facility. The “proposed site” is adjacent to and east of the UCR Transportation and Parking Services facility on Linden Street and is within the campus boundaries. The front of the building would have access from Linden, a campus street, and the storage and operations yard would have access from Watkins Drive, a city street. Some of the elements considered when selecting a site for the new facility were physical limitations such as topography, size, utilities, access (to the campus and to city streets) and adjacencies to similar support uses. Also considered were the Long Range Development Plan’s (LRDP) land use designations and campus area studies.

The proposed site was determined by the Campus to be the best location for the facility, based on these criteria; however, some of the off-campus neighbors challenged this determination during a public meeting which was held in compliance with the terms of a settlement agreement recorded about the time Schematic Design on the facility was completed. The agreement provides that future campus projects requiring public review under CEQA be subject to two community meetings during the Schematic Design phase, specifically a preliminary project review meeting to solicit public input on project design and a subsequent design selection meeting to present the project proposed by the Campus to be subject to CEQA. Comments at the first public meeting requested that the campus consider other sites for the new facility. Those sites are: the northwest corner of University Avenue and West Campus Drive (the Latter Day Saints Community Center site); the northeast corner of Martin Luther King Boulevard and Canyon Crest Drive (the Caltrans lay-down area); and the Agricultural Operations area south of Martin Luther King Boulevard.

The campus hired SRG Partnership, Inc. to conduct an independent evaluation of sites for a new EH&S facility, to include the:

- Existing facility location (for expansion),
- Proposed site (as determined by UCR’s DPP), and
- Other sites identified by the campus, the community, and SRG

This report presents the findings of that evaluation.

BACKGROUND

Every University of California major capital project begins with the development of a Detailed Project Program (DPP) that sets the project concept—it establishes the program, the scope and budget for the project and identifies the site. Upon completion of the DPP, the project proceeds to the Project Planning Guide

(PPG), which, upon approval, becomes the contract with the Office of the President, the Regents and the state (if a state funded project). It includes the description of the program, delivery schedule and overall budget. When the PPG has been approved, the project goes into Schematic Design, at the end of which, the design is considered to be 15%-20% complete. The EH&S DPP was completed in October 2004, the PPG was approved by the Regents in November 2004, and Schematic Design was completed in March 2006.

LONG RANGE DEVELOPMENT PLAN (LRDP)

The LRDP establishes the context in which campus projects are conceived and constructed. It provides development policies, goals and objectives and a land use map with land use designations. The UCR LRDP was reviewed by public agencies and the public through public hearings during the spring and summer of 2005 and was approved by the University of California Regents in November 2005. The 2005 UCR LRDP can be amended with proper justification; however, because it is the overall blueprint for the development of the campus, modifications or changes often have complicated, second-

ary impacts on the campus master development plan as well as on more detailed area studies which are more specific as to use and arrangement of development.

APPROACH TO EH&S SITING CRITERIA

In order to respond to questions and concerns raised by the community regarding the proposed location of the new EH&S facility, the campus decided to respond to community input by requesting a third party to conduct a site analysis or evaluation for the facility. UCR hired SRG of Portland, Oregon, an outside consultant, to perform an assessment of sites proposed by the Campus and the community. SRG is an architectural and planning firm that assisted the campus with site selection for the new Genomics Building. Following is a list of potential sites evaluated in the assessment including two that SRG identified:

Identified by UCR:

- Existing site (for expansion)
- Parking Lot 6
- Parking Lot 9
- Proposed site (DPP)

Identified by community:

- Caltrans Lay-down area
- Agricultural Operations
- LDS Student Center

Identified by SRG:

- Parking Lot 13
- Power Substation

This analysis resulted in the documentation of a criteria-based assessment, focused on the goals and objectives of the 2005 LRDP, subsequent Area Studies, and a list of criteria including the following: availability of utilities, campus infrastructure, impact on existing uses and general “buildability” of a site. The site identified in the DPP, the proposed site, was used as a “baseline” for evaluating the other sites since it met all of the criteria that were evaluated and had all utilities available at the site.

ASSESSMENT SUMMARY

In the Summary of Site Evaluations shown in this Executive Summary (see matrix below), Site 4 (the proposed site) meets all criteria set forth for consideration; Site 2 (the Caltrans lay down area) meets more criteria than the remaining sites.

Rank	Site	#	Technical Evaluation	Cost (Additional)	Time (Adds minimum of)	Comments
1	Proposed	4	93%	BASELINE	BASELINE	■ Meets all criteria
2	CalTrans	2	84%	\$1.7 mill	6 months	■ Impacts proposed parking structure and displaces future fleet services ■ LRDP amendment required ■ Major entrance to the campus
3	Parking Lot 13	8	75%	\$2.5 mill	6 months	■ Displaces prime building location in Academic land use ■ LRDP amendment required
4	Substation	9	71%	\$2.9 mill	6 months	■ Requires campus access road not in LRDP ■ Significant cost impact
5	Parking Lot 6	6	69%	\$2.2 mill	6 months	■ Displaces prime building location in Academic land use ■ LRDP amendment required ■ Displaces major planned academic building
6	Ag Ops	3	64%	\$2.2 mill	6 months	■ Displaces R & D agricultural operation ■ LRDP amendment required ■ No planned UCR access
7	LDS Student Center	7	62%	\$8.5 mill	24 months	■ Major entrance to campus ■ Requires property acquisition ■ Major cost and schedule impact ■ LRDP amendment required
8	Greenhouses Area	5	55%	\$9.2 mill	12 months	■ Displaces experimental horticultural operations ■ LRDP amendment required ■ Major cost and schedule impact
9	Existing Site	1	42%	\$5.2 mill	12 months	■ Insufficient site size ■ LRDP amendment required ■ Major cost and schedule impact

Costs are “Order-of-Magnitude” only—they are NOT to be used as the basis for construction



Definition of Transportation, Storage & Disposal Facility (TSDF)

The regulations that govern the collection, storage, handling and disposal of hazardous waste were adopted pursuant to the federal Resource Conservation and Recovery Act (RCRA). The State of California is a “delegated” state under RCRA and implements its own hazardous waste program under state law. In all cases, the State of California regulations are as stringent, or more stringent than the federal RCRA regulations. In California, the agency that enforces the state hazardous waste regulations is the Department of Toxic Substance Control (DTSC). The California Code of Regulations (CCR) sections that address hazardous waste are in Title 22 (Social Security), Division 4.5 (Environmental Health Standards for the Management of Hazardous Waste).

The proposed Environmental Health and Safety facility is considered by the state of California as a 90-Day Storage Facility. It stores waste collected from various departments on campus in a safe and regulated manner for no more than 90-days and, by its nature and definition, does not and cannot accept waste from off-campus generators, nor store for longer than the 90-days.

During the community meeting, several community members stated that the proposed facility was a Transportation, Storage and Disposal Facility (TSDF) as defined by the DTSC and, therefore, needed a TSDF permit and was an inappropriate use in their neighborhood. The regulations that answer this question can be found in CCR Title 22 Section 66262.34.

Section 66262.34 states, in part, that “a generator may accumulate hazardous waste on-site for 90 days or less without a [TSDF] permit” if it meets certain conditions. These requirements are intended to apply to generators of hazardous waste (as distinguished from treatment, storage and disposal facilities) that accumulate waste on-site before it is shipped off-site for ultimate treatment, recycling, incineration or disposal at a permitted TSDF.

UCR, as a generator of hazardous waste, including computers, fluorescent lights, batteries, chemicals, and other hazardous materials complies with the following conditions that must be met to qualify for the “generator” exemption from being a TSDF:

Waste is placed in containers that are:

- In good condition
- Compatible with the contents
- Kept closed except when necessary to add or remove waste
- Inspected for corrosion or deterioration
- Containers holding ignitable or reactive waste must be at least 50 feet from the property line (The California Building Code and the California Fire Code, based upon Section 503.1 specify that “For the purpose of this section, the center line of an adjoining public way shall be considered an adjacent property line”).
- Incompatible waste must be kept in separate containers.
- Containers with wastes must be separated from other

incompatible materials by means of a dike, berm, wall, or other device.

- All hazardous waste containers managed must comply with all air emission standards including those for process vents and tank systems.
- All hazardous wastes must be placed on drip pads (rather than in secondary containers), require a leak detection and collection systems, liners, inspections, and maintenance and keeping of records.
- Waste is only placed in one or more buildings designed to contain it.
- Written description of procedures is required to ensure that each waste volume remains for no more than 90 days.
- Emergency preparedness requirements must be met.
- Contingency plan and emergency procedure requirements must be met.
- Personnel handling the waste in the facility are properly trained.
- If a generator is managing and treating waste that has land disposal restrictions, or contaminated soil in tanks, containers, or containment buildings, then certain procedures must be followed.
- University vehicles are permitted to travel on campus roads, which are defined as “private”.
- University vehicles may not travel on public roads, i.e., city or county-owned roads or freeways; however, they may “cross over” a public road.

SPECIAL CONSIDERATIONS

None of the evaluated sites are affected by flood plains, poor soils, or seismic considerations - the following descriptions of those site characteristics are taken from the 2005 UCR LRDP.

Flooding: The campus is partially located on the alluvial fan of the Box Springs Mountains. Considerable runoff occurs during storms due to the steep topography and two arroyos pass through the campus. In addition, urbanization of the once agricultural area has increased the amount of surface runoff. There are two areas on the campus within the 100-year floodplain, according to the Federal Emergency Management Agency (FEMA). Those two areas are the University Arroyo on the East Campus and the Box Springs Arroyo south of Martin Luther King Boulevard on the West Campus. Both areas trend in an east to west direction. In the past, the University Arroyo 100-year flood plain width ranged to about 400 feet and was located along Big Springs Road, the adjacent parking lots, North Campus Drive, across the Athletic Fields and to the Gage Basin. The width of the University Arroyo flood plain has been reduced in width with the completion of the University Arroyo Stormwater Flood Control and Enhancement project, which has channeled the surface flow of that 100-year flood plain on camp

Soils: The campus is generally located on soils of the Arlington, Buren, Hanford, Monserate, Cienba and Vista association. In the western, northwestern and southwestern portions of the campus, where slopes are relatively flat or slightly sloped, the

soils consist of silty fine to coarse sands. In the east central portion of the campus, the soils are comprised of deep sandy loams, with slopes ranging from 8% to 15%. The northeastern part of the campus consists of well-drained soils that developed in alluvium from predominately granitic material, with slopes ranging from 0% to 15%. The southeastern area of the campus consists largely of slopes over 15% with well drained soils developed from igneous rock.

Seismic: The campus is located in a seismically active area of southern California; however, no active faults are known to exist on the campus and the area is not on or near an Alquist-Priolo Special Studies Zone (state designated zones along active and potentially active faults) for seismic hazard. There are four major faults in the Riverside area. The nearest active fault is the northwest trending San Jacinto Fault, located approximately seven miles to the northeast. Other major faults include the San Andreas (14 miles to the northeast), the Banning Fault (ten miles to the northeast), and the Elsinore Fault (16 miles to the southwest). A concealed fault trending in a northwesterly direction is thought to pass at the foot of the Box Springs Mountain and is believed to be responsible for the springs found in the area. No surface evidence of the fault is apparent and no recent activity along this fault has been recorded, and thus it is considered inactive. While the campus is not located within any of the active fault zones, ground shaking from any of these faults could result in considerable damage. Generally, the more adverse effects from ground shaking would occur in areas of unconsolidated soils, whereas less damage would be expected in bedrock or consolidated materials. The potential for liquefaction is minimal due to existing soil types (which consist of consolidated materials and bedrock) and the depth to groundwater. All development on campus is required to address the seismic potential for this area in its design and construction. The depth to groundwater. All development on campus is required to address the seismic potential for this area in its design and construction.

CRITERIA MATRIX CATEGORY EXPLANATION

LRDP/Planning

Compliance of site development to land use planning issues

This category measures adherence to approved land use plans and regulations that apply to EH&S operations, identified as Campus Support land use. It also evaluates if existing buildings must be relocated, which is quantified in the Cost & Schedule category. Changing the LRDP is a significant undertaking because of the associated approval process and potential secondary effects (changes in transportation, circulation and density decisions) when changing and displacing land uses, and is weighted to be one of the more important categories. It is anticipated that UCR will comply with the California Environmental Quality Act (CEQA) with a focused Environmental Impact Report for the selected site.

Campus Utilities

Availability of campus service and utilities to the site

The absence of utilities has cost implications that are quantified in the Cost & Schedule category. Some sites are scheduled for utility extensions in the LRDP, but this project could force design and construction in a less comprehensive way for some sites, and be potentially more expensive. The “additional cost” for each site includes the cost for utility extensions.

Access to Site

Access by public and private visitors

Access to the site by campus and public vehicles addresses efficiency of access, potential disturbance to other operations, and sufficient parking capacity, since EH&S conducts training primarily for UCR; however, it occasionally also conducts training for other campuses and the public. This category also determines if UCR haulers of waste material have to travel along public streets—a condition not permitted under regulations for a 90-day storage facility.

Buildable Area

Capacity of site

This category measures the ability of the site to satisfy the space required for a functional program, including a provision for future expansion. The site should also be sufficiently large enough to allow the considerations of viable design alternatives.

Site Qualities

Qualitative characteristics of the site

The site’s physical and environmental qualities for the most part have less impact on the project than do the other criteria; however, topography can impact price and accessibility, and the importance of image relative to campus entrances, and visibility from outside the campus, can enhance or detract from a sense of place for UCR in the community. Prevailing winds are from the northwest. During Santa Ana conditions, they come from the northeast.

Constructability

Site constraints on construction

Constructability measures the efficiency and economy of the construction process, based on the size and location of the site. Construction staging and parking are critical elements. A site that’s too small incurs premium costs to store construction material and trailers. This category evaluates how existing on-going operations will be affected.

Cost and Schedule

Cost and schedule impacts

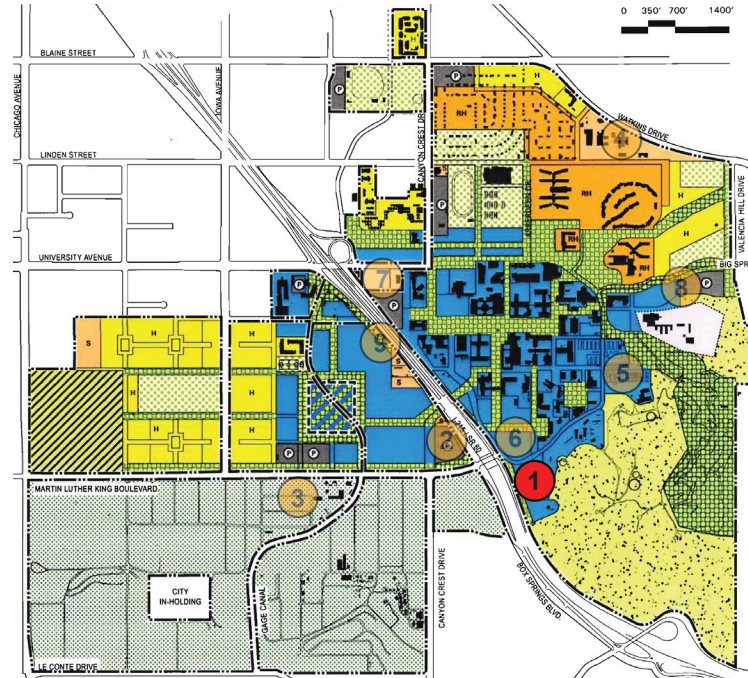
All sites, except for Proposed Site 4, will require a new schematic design, and, except for Site 9, a LRDP amendment as well. Each site will be subject to the California Environmental Quality Act (CEQA) and its requirements. Construction cost escalation is presumed to be 8%-9% per year, based on recent campus construction cost experience.

SITE ANALYSES





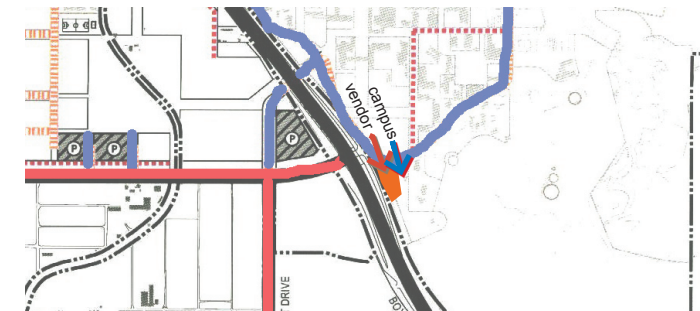
Reference Map



LRDP

SITE #1 EXISTING SITE

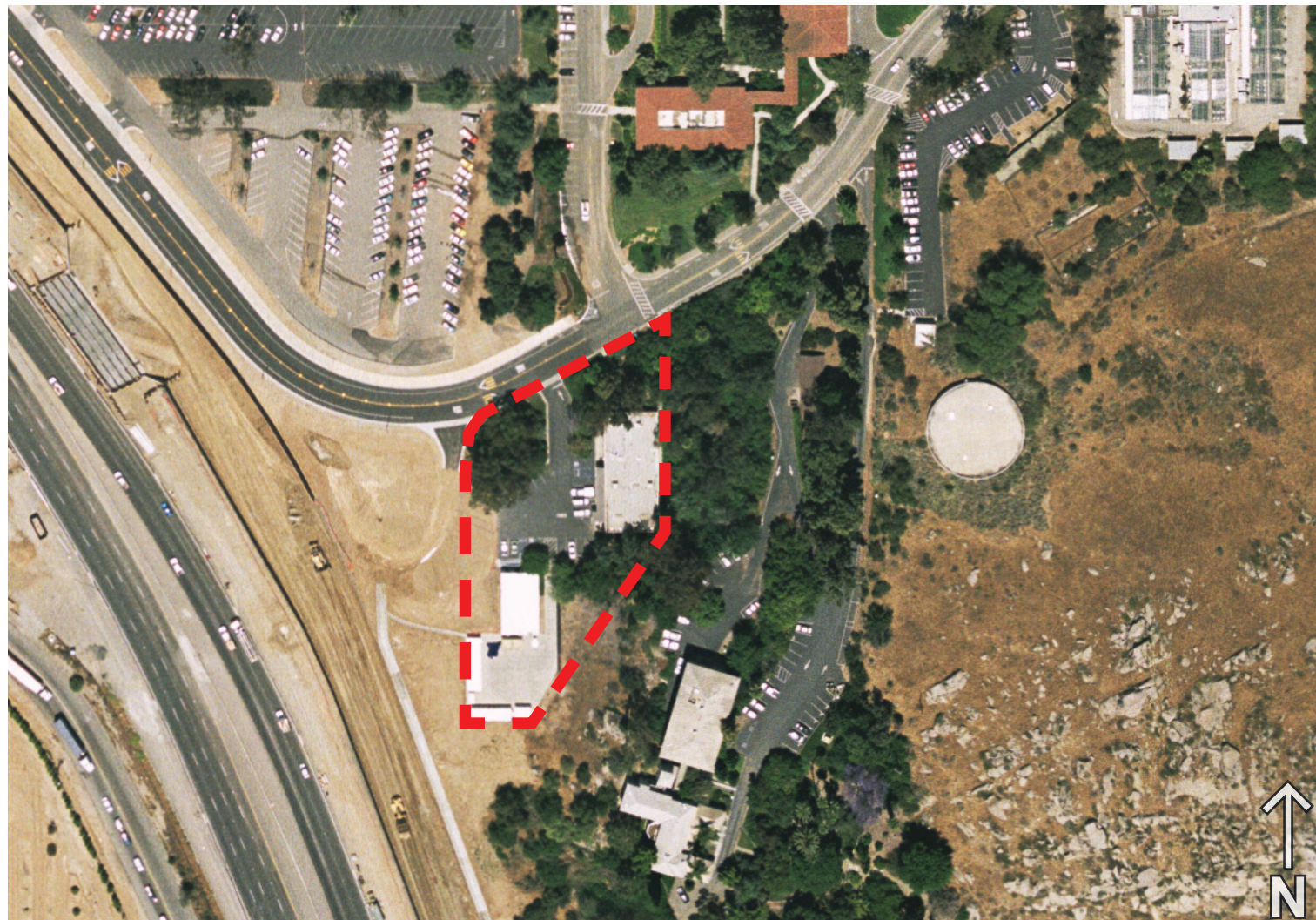
Available site area: 1.3 acres
 Required site area: 3.2 acres
 LRDP Designated Use: Academic
 Gradient cost premium: Severe



Transportation



View From Container Storage Area



Site

Utility	Exists	Length
Domestic/Fire Water	yes	—
Sewer	yes	—
Storm	yes	—
Natural Gas	yes	—
Power	yes	—
Copper	yes	—
Comm Fiber	yes	—
Fiber/Alarms & EMS	yes	—



View From South Campus Drive

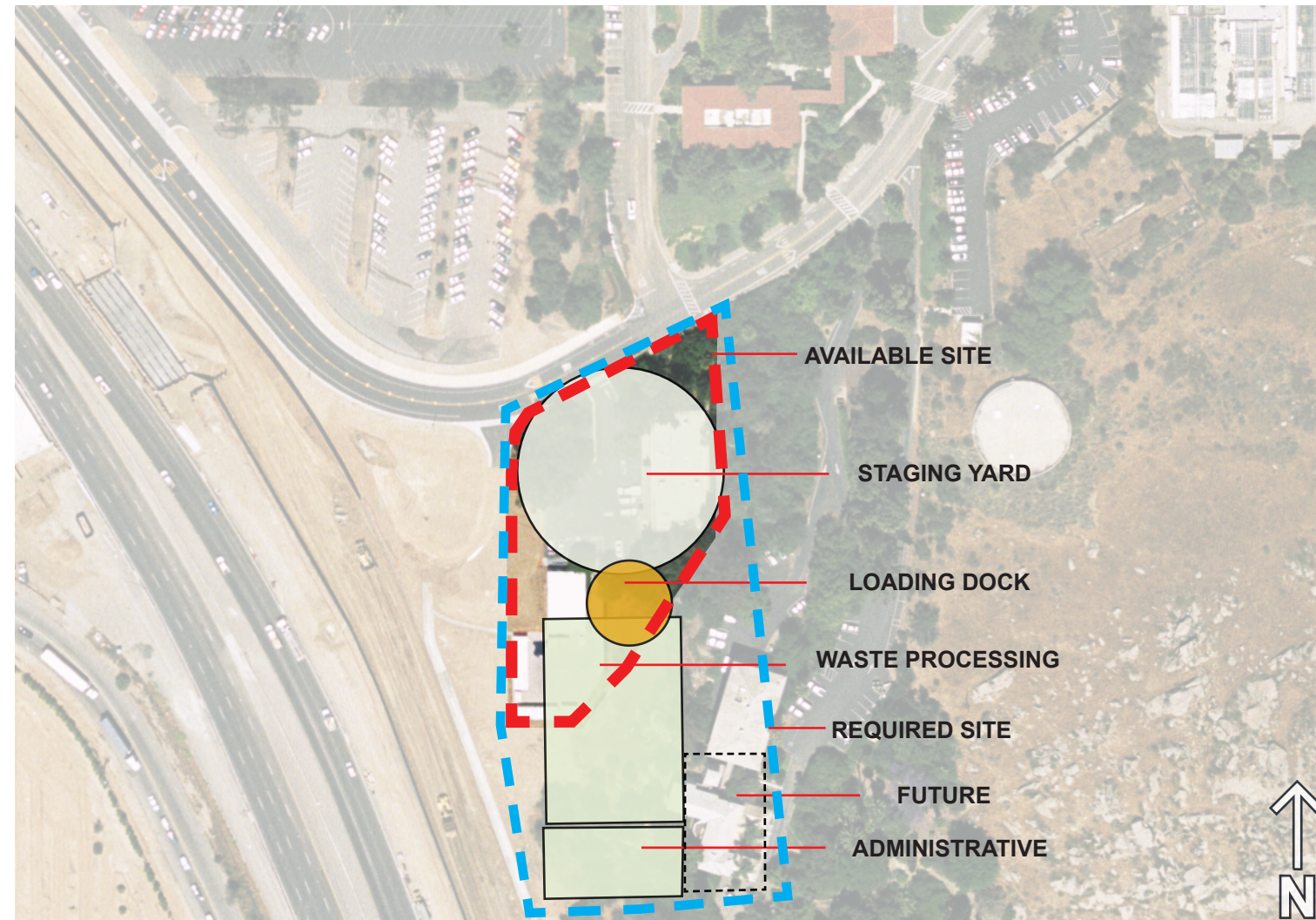


Aerial View

SITE #1 ANALYSIS SUMMARY

Site 1 is the existing EH&S facility. Due to Caltrans "take" of a large portion of the site adjacent to the freeway to improve regional circulation in the area, the available site left is less than one half of the area required to construct the proposed building, exterior storage and circulation necessary to update the facility to comply with new regulations and desired operations. In addition,

an interim EH&S structure would have to be built to serve the campus while a new facility is constructed, since the site is too small to accommodate construction and operations concurrently. It is not a feasible site for the needed expansion.



Concept Plan

CAMPUS External influences

Planning/LRDP Compliance with campus and district planning: 10 pts Max

▪ 2005 UCR LRDP	0	▪ Relocation of existing	0	2
▪ Codes regs/non TSDf	10	▪ Other Master Plans	0	
▪ CEQA	8			

- Requires LRDP amendment
- Requires building a temporary EH&S facility

Campus Utilities Availability of campus service and utilities: 5 pts Max

▪ Domestic/fire water	5	▪ Telecom/data	5	5
▪ Sewer	5	▪ Fiber optic (alarms)	5	
▪ Storm	5	▪ Steam (optional)	5	
▪ Natural gas	5	▪ Chilled water (optional)	5	
▪ Power	5			

Access to Site: By public and private visitors 10 pts Max

▪ UCR haulers	10	▪ Emergency responders	10	8
▪ Commercial haulers	10	▪ Campus/public	4	
▪ Vendors	10			

- Requires parking across Campus Drive; parking lot becomes future Academic land use

PROJECT Program and Site Influences

Buildable Area Capacity of site: 10 pts Max

▪ Building	2	▪ Parking	2	2
▪ Yard/storage	2	▪ Circulation on-site	2	
▪ Future expansion	0	▪ Flexibility/configuration	0	

- Site too small for program
- No room for expansion
- Insufficient for truck circulation

Site Qualities Qualitative characteristics of the site: 5 pts Max

▪ Security (day/night)	4	▪ Adjacent facilities	4	3
▪ Image/visibility	3	▪ Noise (external/internal)	5	
▪ Seismic	5	▪ Slope/topography	0	
▪ Vegetation/habitat	4	▪ Prevailing Winds	5	
▪ Soils/geotech	2	▪ Sustainable potential	2	

Constructability Site constraints on construction: 5 pts Max

▪ Access	1	▪ On-going operations	0	1
▪ Staging	1	▪ Adjacent operations	1	
▪ Vibration/noise	1			

- Very constrained site

Cost & Schedule Cost and schedule impacts: 10 pts Max

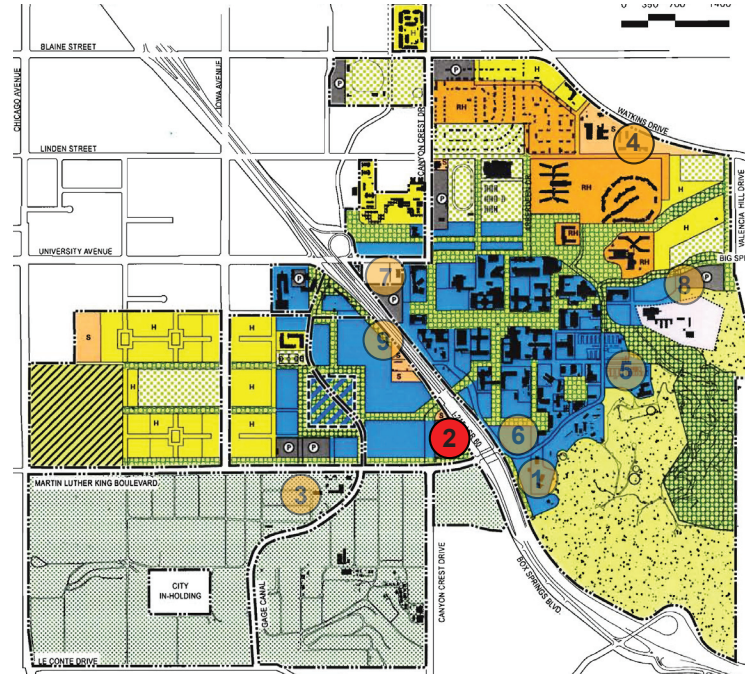
▪ Site development	4	▪ Demolition	0	2
▪ Building construction	4	▪ Redesign cost	0	
▪ Infrastructure	10	▪ Escalation/delay	0	
▪ Off-site construction	10	▪ Operational impact	0	
▪ Relocation of existing	0			

- Requires demolition of the existing facility, and the construction of interim building
- Requires major redesign and delay
- Significant cost impact

SUMMARY SCORE	Total points	23	42%	Percentage of the 55 available points
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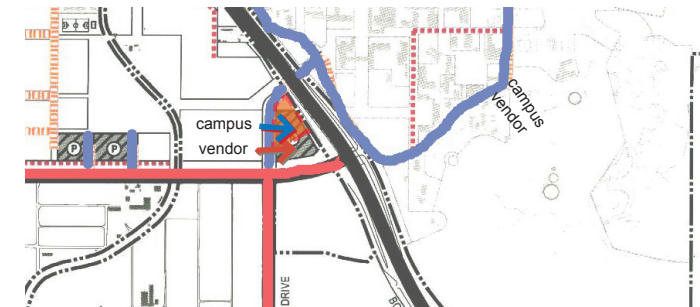
Reference Map



LRDP

SITE #2 CAL-TRANS LAY DOWN

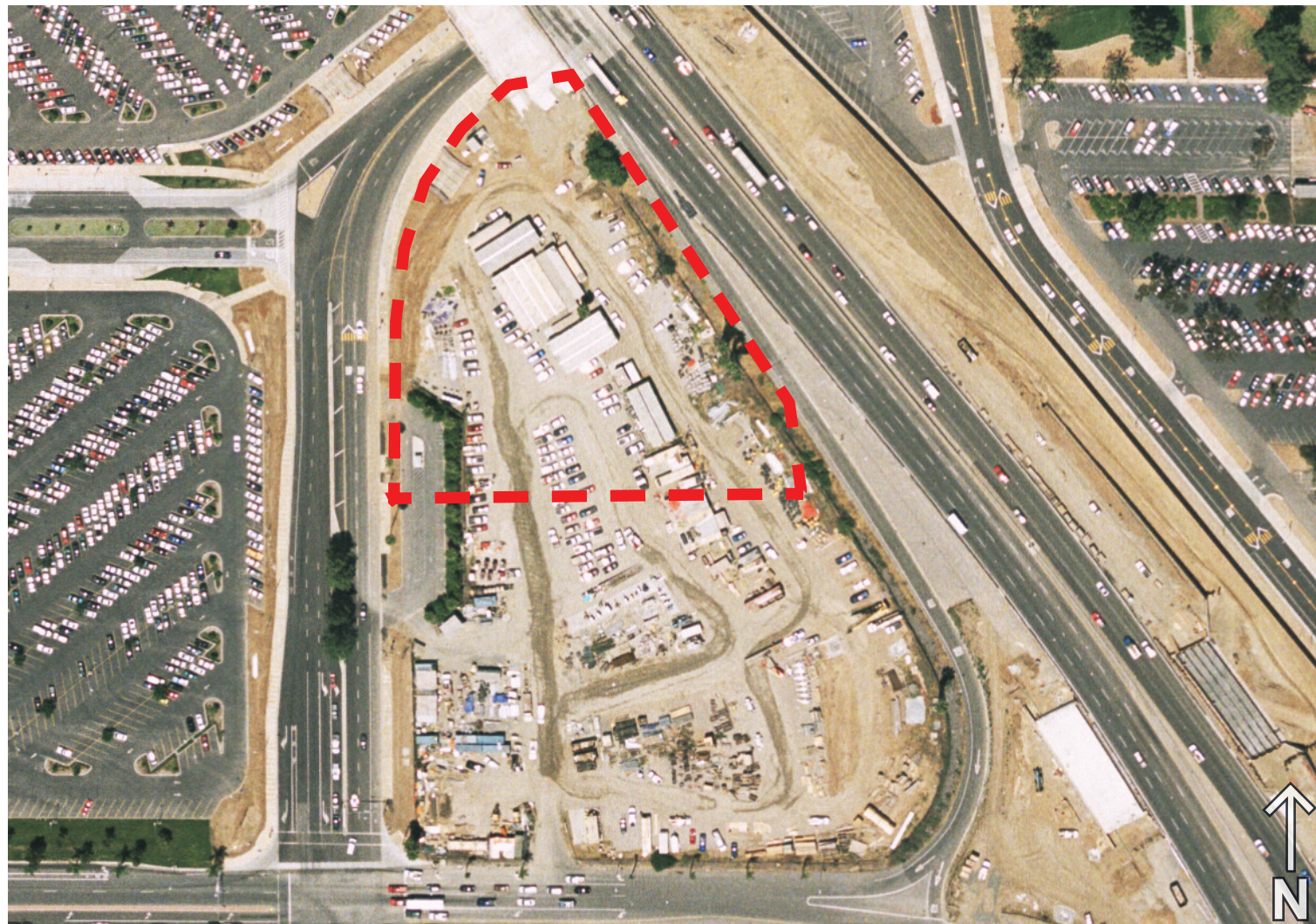
Available site area: 3.2 acres
 Required site area: 3.2 acres
 LRDP Designated Use: Parking
 Gradient cost premium: none



Transportation



View to Lay-Down Entrance



Site

Utility	Exists	Length
Domestic/Fire Water	no	600'
Sewer	no	1,800'
Storm	no	600'
Natural Gas	no	400'
Power	no	1,200'
Copper	no	900'
Comm Fiber	no	150'
Fiber/Alarms & EMS	no	1,900'



View to Freeway from MLK

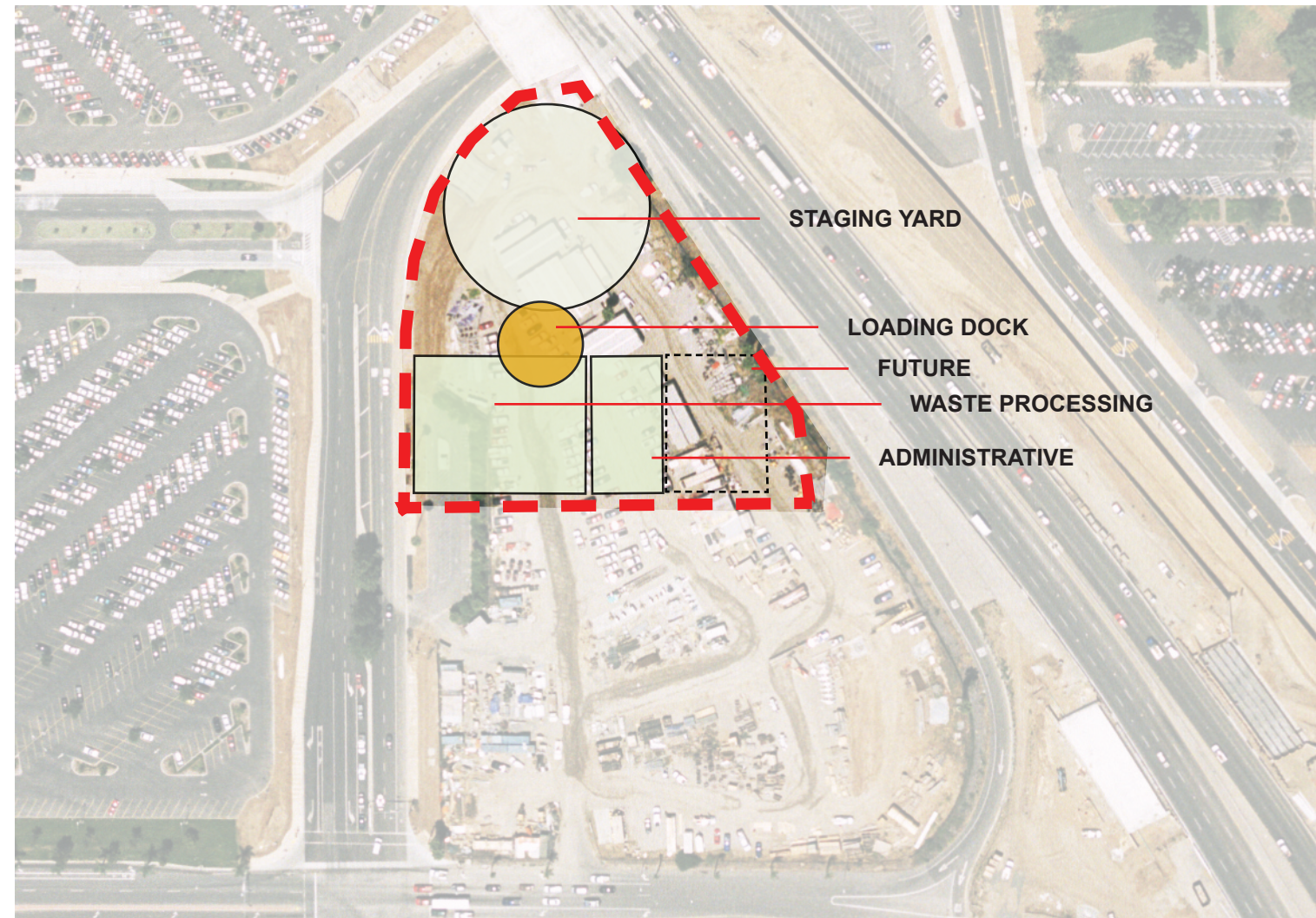


Aerial View From SE

SITE #2 ANALYSIS SUMMARY

Site 2 is the California Transportation (Caltrans) construction staging area for improvements to the MLK and Interstate 215 interchange. The present schedule is for work to be completed in the Spring quarter of 2008, which means that pre-construction work on the new EH&S facility could possibly begin when the site becomes available. This site is not consistent with the LRDP, requiring an LRDP amendment, and would significantly impact

the proposed parking structure, which would have to be downsized and a new site found for the associated support facilities. It requires extensive utility extensions, incurs redesign costs for a new facility and yard, and would result in construction cost escalation. Although it has liabilities, it ranks second to Site 4.



Concept Plan

CAMPUS External influences

Planning/LRDP Compliance with campus and district planning: 10 pts Max

▪ 2005 UCR LRDP	0	▪ Relocation of existing	10	8
▪ Codes regs/non TSDf	10	▪ Other Master Plans	0	
▪ CEQA	10			

- Requires amending the LRDP
- Replaces or reduces proposed parking structure
- Requires relocation of fleet services

Campus Utilities Availability of campus service and utilities: 5 pts Max

▪ Domestic/fire water	0	▪ Telecom/data	3	2
▪ Sewer	0	▪ Fiber optic (alarms)	3	
▪ Storm	3	▪ Steam (optional)	0	
▪ Natural gas	3	▪ Chilled water (optional)	0	
▪ Power	3			

- Requires extension of utilities

Access to Site: By public and private visitors 10 pts Max

▪ UCR haulers	10	▪ Emergency responders	10	10
▪ Commercial haulers	10	▪ Campus/public	10	
▪ Vendors	10			

- May impact planned fleet services parking

PROJECT Program and Site Influences

Buildable Area Capacity of site: 10 pts Max

▪ Building	10	▪ Parking	10	10
▪ Yard/storage	10	▪ Circulation on-site	10	
▪ Future expansion	10	▪ Flexibility/configuration	10	

Site Qualities Qualitative characteristics of the site: 5 pts Max

▪ Security (day/night)	5	▪ Adjacent facilities	5	5
▪ Image/visibility	5	▪ Noise (external/internal)	5	
▪ Seismic	5	▪ Slope/topography	5	
▪ Vegetation/habitat	5	▪ Prevailing Winds	5	
▪ Soils/geotech	5	▪ Sustainable potential	5	

Constructability Site constraints on construction: 5 pts Max

▪ Access	5	▪ On-going operations	5	5
▪ Staging	5	▪ Adjacent operations	5	
▪ Vibration/noise	5			

Cost & Schedule Cost and schedule impacts: 10 pts Max

▪ Site development	8	▪ Demolition	10	6
▪ Building construction	10	▪ Redesign cost	0	
▪ Infrastructure	2	▪ Escalation/delay	0	
▪ Off-site construction	8	▪ Operational impact	10	
▪ Relocation of existing	10			

- Requires major redesign
- Delays occupancy due to redesign
- Additional cost for redesign, delays, construction

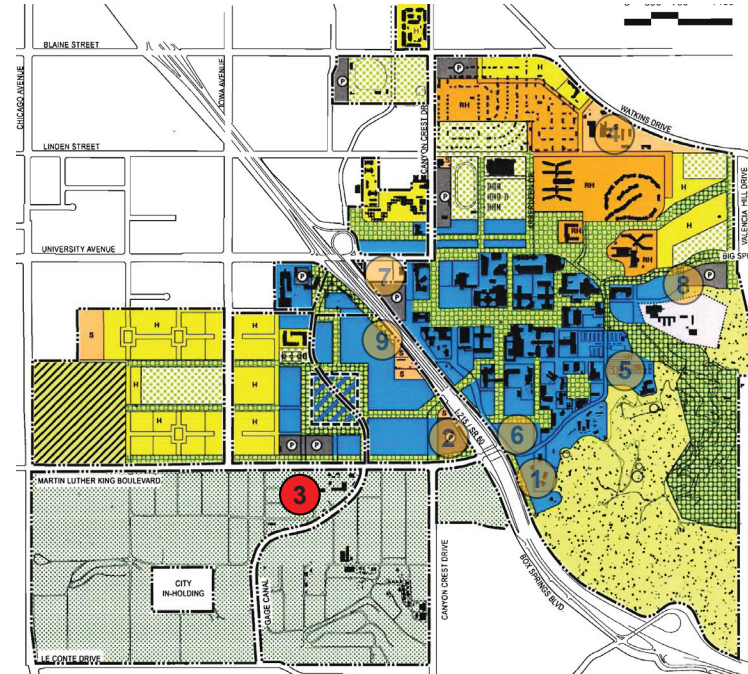
SUMMARY SCORE

Total points **46** **84%** Percentage of the 55 available points





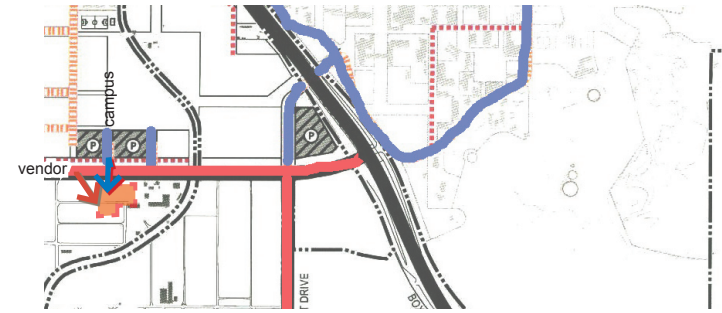
Reference Map



LRDP

SITE #3 AGRICULTURAL OPERATIONS

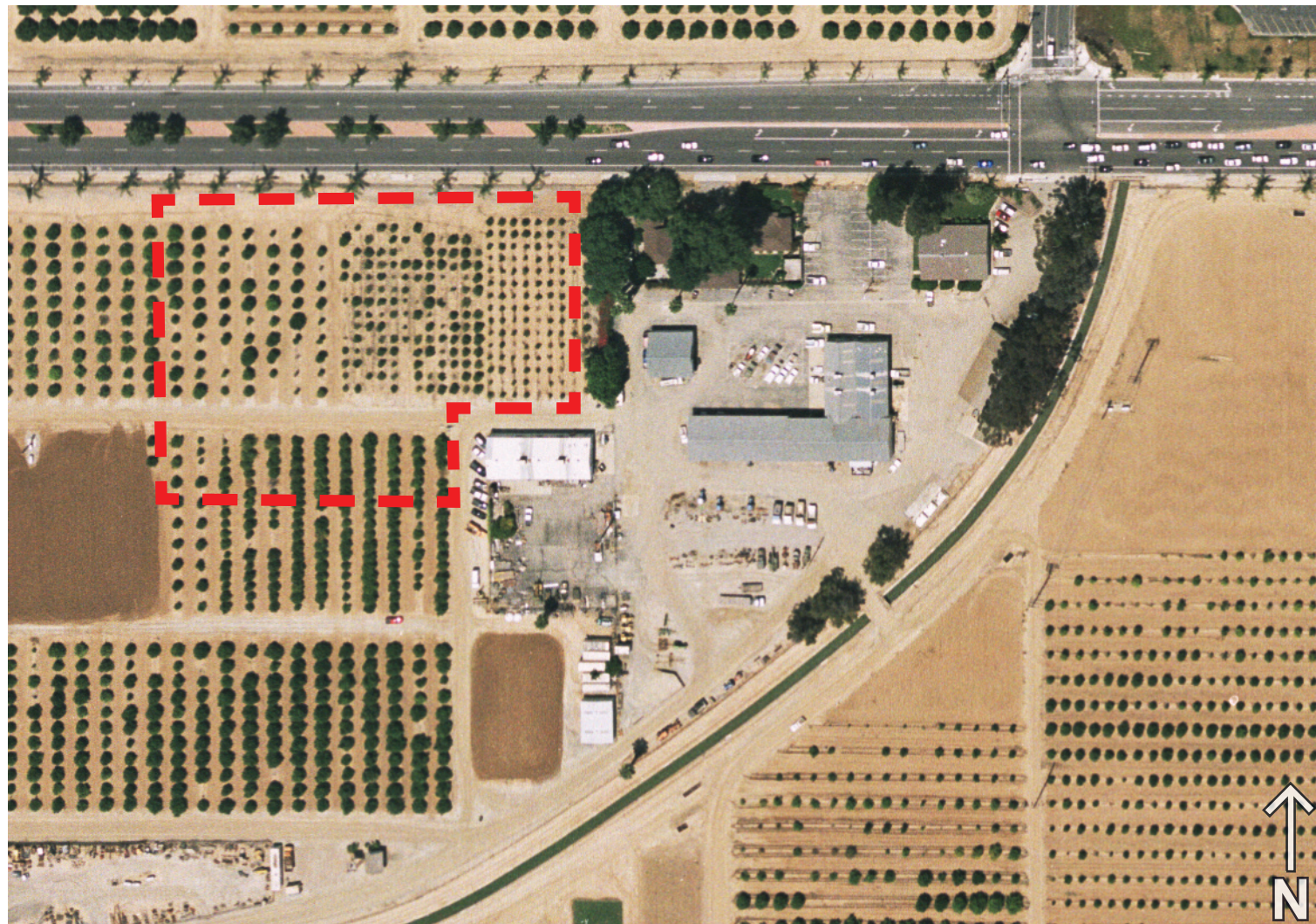
Available site area: 3.2 acres
 Required site area: 3.2 acres
 LRDP Designated use: Agricultural, Teaching & Research Fields
 Gradient cost premium: none



Transportation



Ag Ops from MLK Entrance

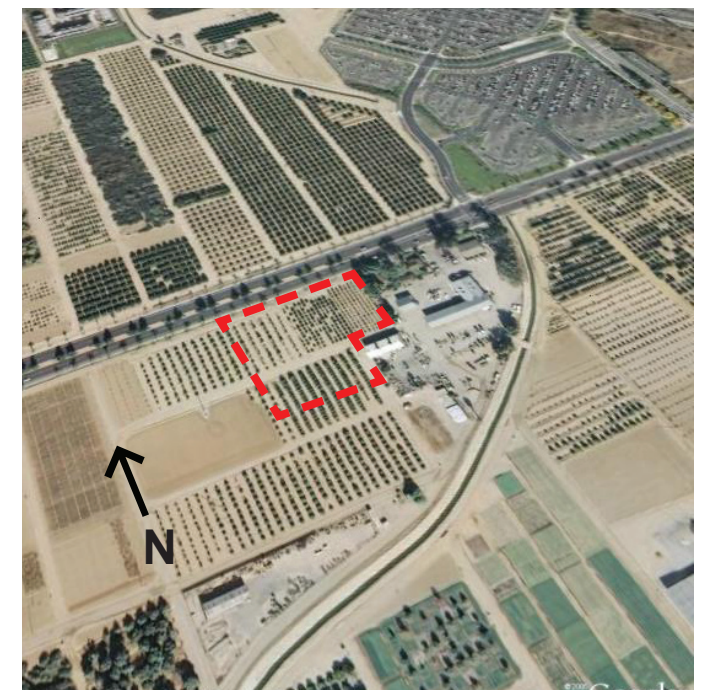


Site

Utility	Exists	Length
Domestic/Fire Water	yes	—
Sewer	yes	—
Storm	yes	—
Natural Gas	yes	—
Power	no	2,400'
Copper	no	2,400'
Comm Fiber	no	100'
Fiber/Alarms & EMS	no	4,800'



View from Ag Ops to MLK

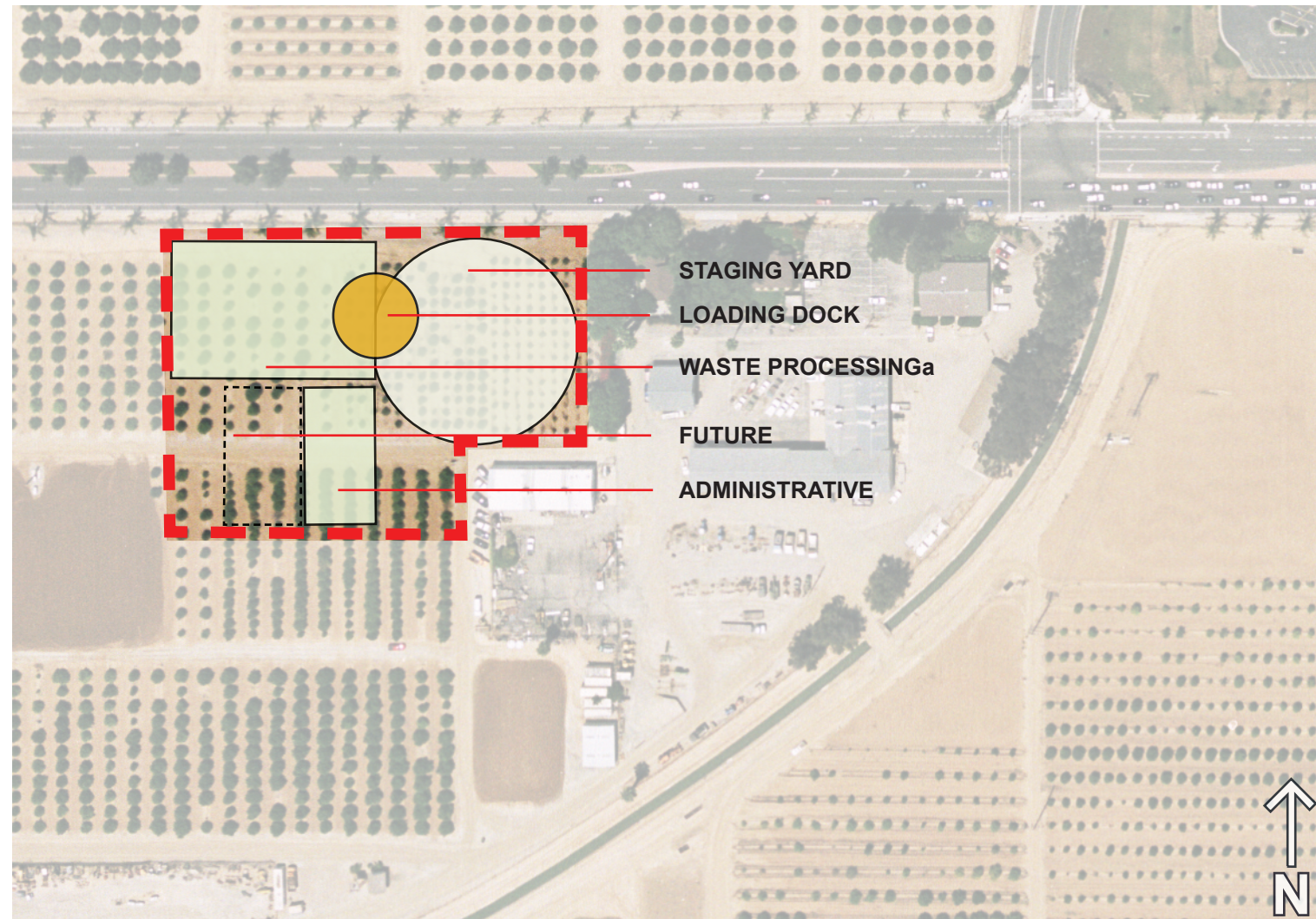


Aerial View From SW

SITE #3 ANALYSIS SUMMARY

Site 3 is adjacent to the Agricultural Operations area within the teaching and research fields, south of MLK. It's adjacent to the existing structures and offices used to maintain the experimental orchards and fields. This site would encroach significantly on research and development acreage identified for long-term use per the LRDP. Due to development proposals north of MLK, maintaining the orchards and fields south of MLK is extremely impor-

tant to the agricultural program, and is the best use of the land. In addition, the West Campus academic core would have to be redesigned to provide an internal campus access road to comply with regulations for UCR haulers. The road would be a significant encroachment on the academic core of the West Campus.



Concept Plan

CAMPUS External influences

Planning/LRDP Compliance with campus and district planning: 10 pts Max

▪ 2005 UCR LRDP	0	▪ Relocation of existing	2	4
▪ Codes regs/non TSDf	10	▪ Other Master Plans	0	
▪ CEQA	10			

- Requires amending the LRDP
- Displaces the experimental horticultural operation

Campus Utilities Availability of campus service and utilities: 5 pts Max

▪ Domestic/fire water	5	▪ Telecom/data	0	3
▪ Sewer	5	▪ Fiber optic (alarms)	0	
▪ Storm	5	▪ Steam (optional)	0	
▪ Natural gas	5	▪ Chilled water (optional)	0	
▪ Power	0			

- Requires major utility extensions

Access to Site: By public and private visitors 10 pts Max

▪ UCR haulers	2	▪ Emergency responders	10	2
▪ Commercial haulers	10	▪ Campus/public	6	
▪ Vendors	10			

- No planned campus access without significant LRDP impact

PROJECT Program and Site Influences

Buildable Area Capacity of site: 10 pts Max

▪ Building	10	▪ Parking	10	10
▪ Yard/storage	10	▪ Circulation on-site	10	
▪ Future expansion	10	▪ Flexibility/configuration	10	

Site Qualities Qualitative characteristics of the site: 5 pts Max

▪ Security (day/night)	5	▪ Adjacent facilities	4	5
▪ Image/visibility	4	▪ Noise (external/internal)	5	
▪ Seismic	5	▪ Slope/topography	3	
▪ Vegetation/habitat	4	▪ Prevailing Winds	5	
▪ Soils/geotech	5	▪ Sustainable potential	5	

Constructability Site constraints on construction: 5 pts Max

▪ Access	5	▪ On-going operations	5	5
▪ Staging	5	▪ Adjacent operations	5	
▪ Vibration/noise	5			

Cost & Schedule Cost and schedule impacts: 10 pts Max

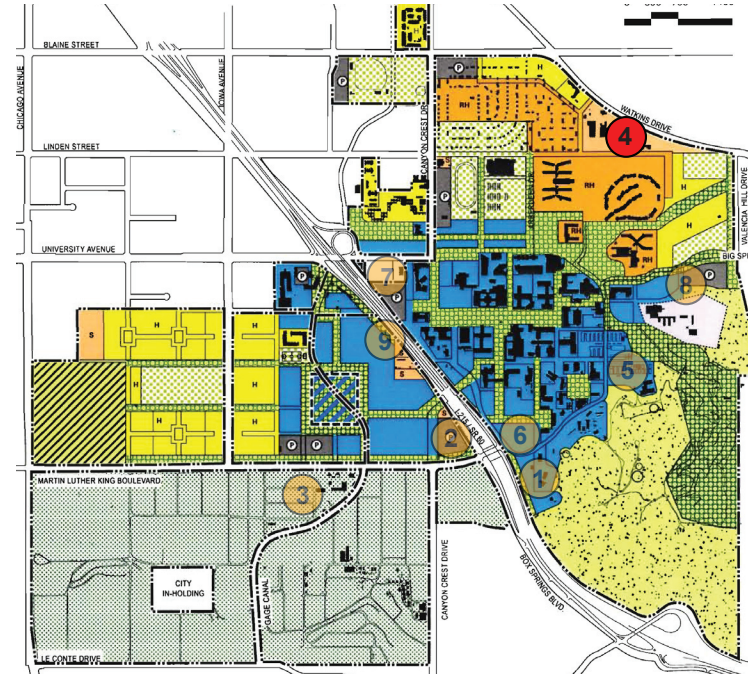
▪ Site development	8	▪ Demolition	8	6
▪ Building construction	10	▪ Redesign cost	0	
▪ Infrastructure	3	▪ Escalation/delay	0	
▪ Off-site construction	8	▪ Operational impact	10	
▪ Relocation of existing	8			

- Requires major redesign
- Delays occupancy due to redesign
- Additional cost for redesign, delays, construction

SUMMARY SCORE	Total points	35	64%	Percentage of the 55 available points
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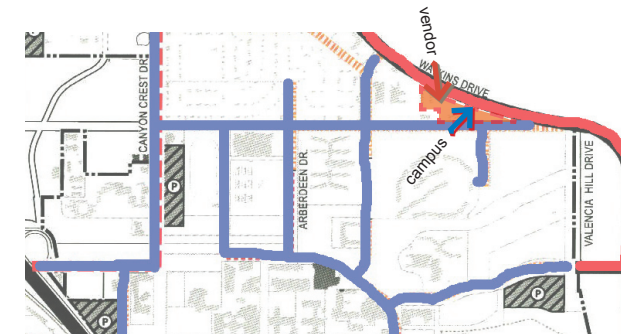
Reference Map



LRDP

SITE #4 EAST OF TAPS (TRANSPORTATION AND PARKING SERVICES-PROPOSED SITE)

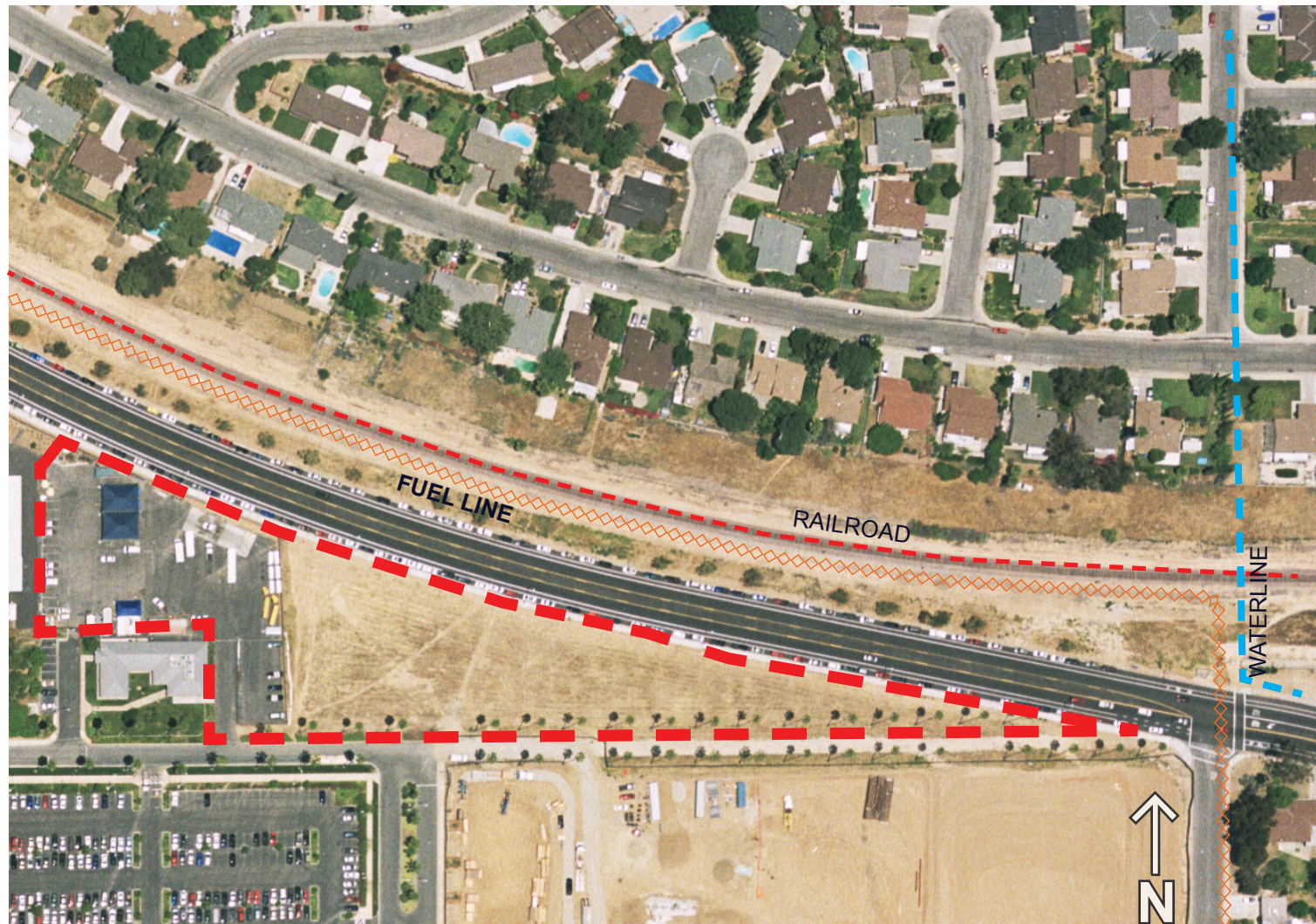
Available site area: 3.2 acres
 Required site area: 3.2 acres
 LRDP Designated use: Campus Support
 Gradient cost premium: none



Transportation



View Across Site to Watkins Drive



Site

Utility	Exists	Length
Domestic/Fire Water	yes	—
Sewer	yes	—
Storm	yes	—
Natural Gas	yes	—
Copper	yes	—
Comm Fiber	yes	—
Fiber/Alarms & EMS	yes	—



View from Railway to Residential

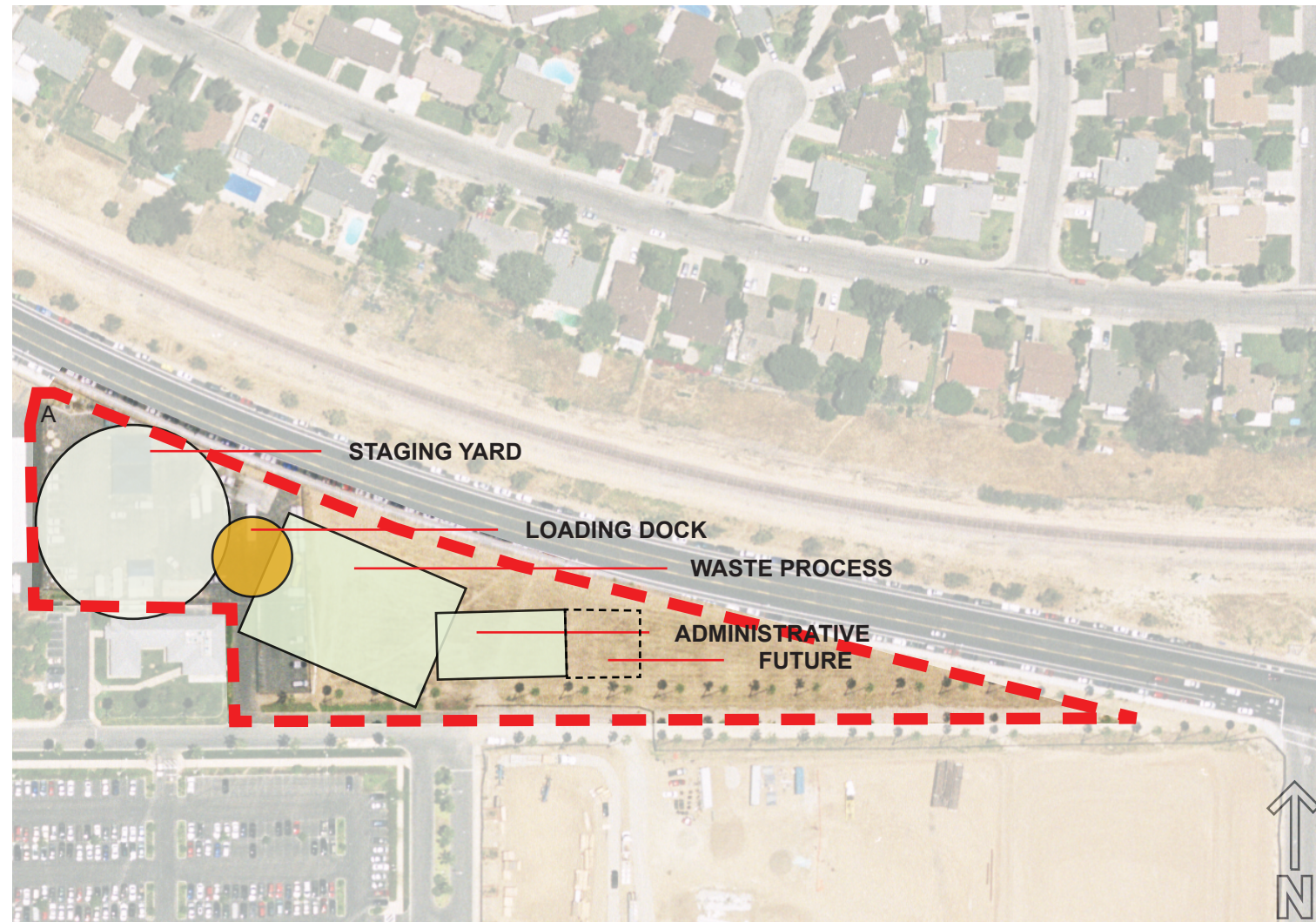


Aerial View From SW

SITE #4 ANALYSIS SUMMARY

This is the proposed project site identified through the DPP process, and is the baseline site for EH&S, relative to the examined criteria. The jet fuel line and railway, both located on the north side of Watkins Drive, are approximately 150' from the building. The proposed site is located 780' to the west of the 108" diameter, steel, aquaduct pipeline, owned and maintained by the

Department of Water Resources. The UCR Fire Marshal, through the campus emergency plan, has determined that water from a break in the line in the area of the proposed site, north of Watkins would flow NW along Watkins to Blaine; a break south of Watkins would flow south along Valencia Hill Drive and Big Springs Road into the City stormwater system.



Concept Plan

CAMPUS External influences

Planning/LRDP Compliance with campus and district planning: 10 pts Max

▪ 2005 UCR LRDP	10	▪ Relocation of existing	10	10
▪ Codes regs/non TSDf	10	▪ Other Master Plans	10	
▪ CEQA	10			

Campus Utilities Availability of campus service and utilities: 5 pts Max

▪ Domestic/fire water	5	▪ Telecom/data	5	5
▪ Sewer	5	▪ Fiber optic (alarms)	5	
▪ Storm	5	▪ Steam (optional)	0	
▪ Natural gas	5	▪ Chilled water (optional)	0	
▪ Power	5			

Access to Site: By public and private visitors 10 pts Max

▪ UCR haulers	10	▪ Emergency responders	8	10
▪ Commercial haulers	10	▪ Campus/public	8	
▪ Vendors	10			

PROJECT Program and Site Influences

Buildable Area Capacity of site: 10 pts Max

▪ Building	10	▪ Parking	8	8
▪ Yard/storage	10	▪ Circulation on-site	10	
▪ Future expansion	8	▪ Flexibility/configuration	6	

▪ Modest flexibility for configuration

Site Qualities Qualitative characteristics of the site: 5 pts Max

▪ Security (day/night)	5	▪ Adjacent facilities	4	4
▪ Image/visibility	4	▪ Noise (external/internal)	4	
▪ Seismic	5	▪ Slope/topography	5	
▪ Vegetation/habitat	5	▪ Prevailing Winds	4	
▪ Soils/geotech	5	▪ Sustainable potential	5	

Constructability Site constraints on construction: 5 pts Max

▪ Access	5	▪ On-going operations	5	4
▪ Staging	4	▪ Adjacent operations	3	
▪ Vibration/noise	3			

▪ Construction noise disruption; impact on TAPS yard

Cost & Schedule Cost and schedule impacts: 10 pts Max

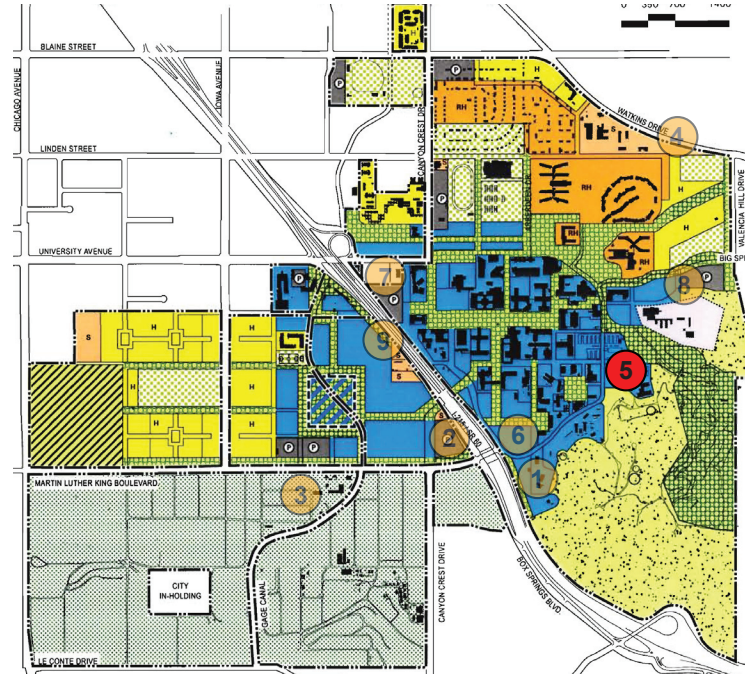
▪ Site development	10	▪ Demolition	10	10
▪ Building construction	10	▪ Redesign cost	10	
▪ Infrastructure	10	▪ Escalation/delay	10	
▪ Off-site construction	10	▪ Operational impact	10	
▪ Relocation of existing	10			

▪ Relocation of transit operations

SUMMARY SCORE	Total points	51	93%	Percentage of the 55 available points
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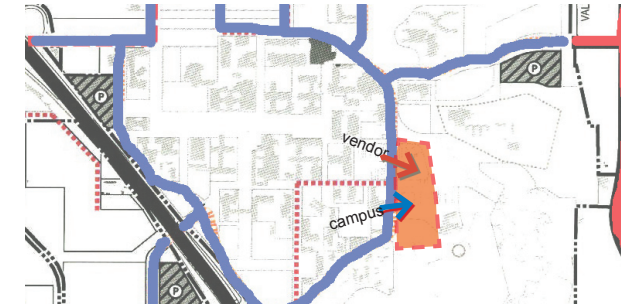
Reference Map



LRDP

SITE #5 GREENHOUSES AREA

Available site area: 3.2 acres
 Required site area: 3.2 acres
 LRDP Designated use: Academic
 Gradient cost premium: high (18' change at 2 terraces)



Transportation



View to Entrance of Lot 9



Site

Utility	Exists	Length
Domestic/Fire Water	yes	—
Sewer	yes	—
Storm	yes	—
Natural Gas	yes	—
Power	yes	—
Copper	yes	—
Comm Fiber	yes	—
Fiber/Alarms & EMS	no	1,200'



View to West from Lot 9

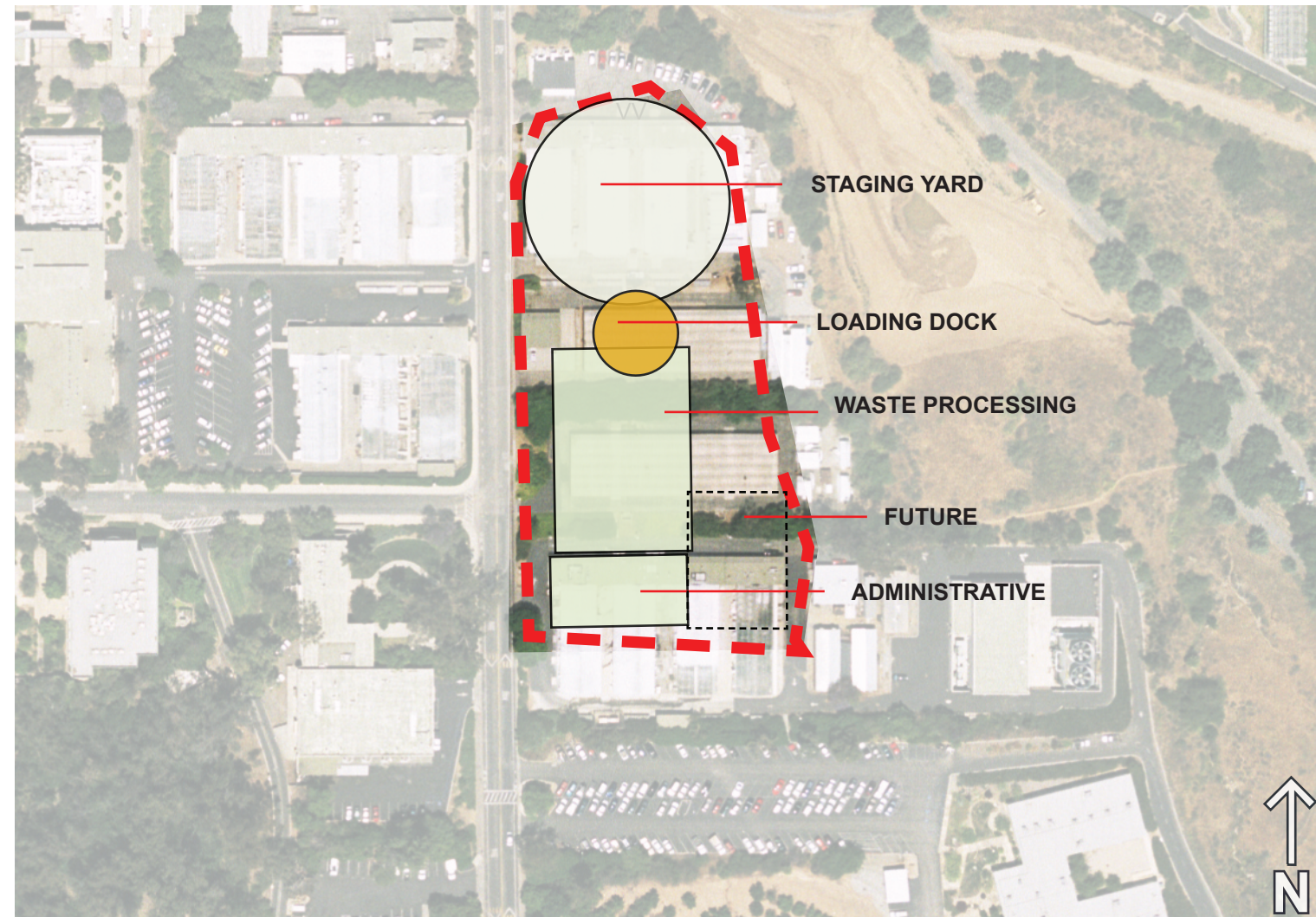


Aerial View From NE

SITE #5 ANALYSIS SUMMARY

Site 5 is located north of parking lot 9, and includes the greenhouses north of the lot. In addition to the redesign cost and cost escalation, this site has three terraces that vary in height from eight to twelve feet. The building and yard areas would have to cross those terraces, putting the structure and retaining system costs in excess of a 20% premium. Realizing an efficient design would be challenging, and would likely require two or more lev-

els. There is a significant cost to demolish and rebuild the nine large, experimental greenhouses on another site, and the research teams that use those facilities are just several blocks away—a relationship that can not be duplicated at a new site. However, EH&S would be located in the middle of the “service area” for campus laboratories.



Concept Plan

CAMPUS External influences

Planning/LRDP Compliance with campus and district planning: 10 pts Max

▪ 2005 UCR LRDP	0	▪ Relocation of existing	0	4
▪ Codes regs/non TSDf	10	▪ Other Master Plans	0	
▪ CEQA	10			

- Requires amending the LRDP
- Displaces greenhouses research program

Campus Utilities Availability of campus service and utilities: 5 pts Max

▪ Domestic/fire water	5	▪ Telecom/data	5	5
▪ Sewer	5	▪ Fiber optic (alarms)	5	
▪ Storm	5	▪ Steam (optional)	5	
▪ Natural gas	5	▪ Chilled water (optional)	5	
▪ Power	5			

Access to Site: By public and private visitors 10 pts Max

▪ UCR haulers	10	▪ Emergency responders	8	8
▪ Commercial haulers	8	▪ Campus/public	10	
▪ Vendors	8			

- Commercial haulers use campus roads

PROJECT Program and Site Influences

Buildable Area Capacity of site: 10 pts Max

▪ Building	4	▪ Parking	4	4
▪ Yard/storage	4	▪ Circulation on-site	4	
▪ Future expansion	4	▪ Flexibility/configuration	2	

- Requires major regrading on terraced site

Site Qualities Qualitative characteristics of the site: 5 pts Max

▪ Security (day/night)	5	▪ Adjacent facilities	4	4
▪ Image/visibility	3	▪ Noise (external/internal)	4	
▪ Seismic	5	▪ Slope/topography	0	
▪ Vegetation/habitat	2	▪ Prevailing Winds	5	
▪ Soils/geotech	5	▪ Sustainable potential	3	

- Adjacent to arroyo

Constructability Site constraints on construction: 5 pts Max

▪ Access	3	▪ On-going operations	5	3
▪ Staging	4	▪ Adjacent operations	5	
▪ Vibration/noise	2			

- Significant topographic constraints

Cost & Schedule Cost and schedule impacts: 10 pts Max

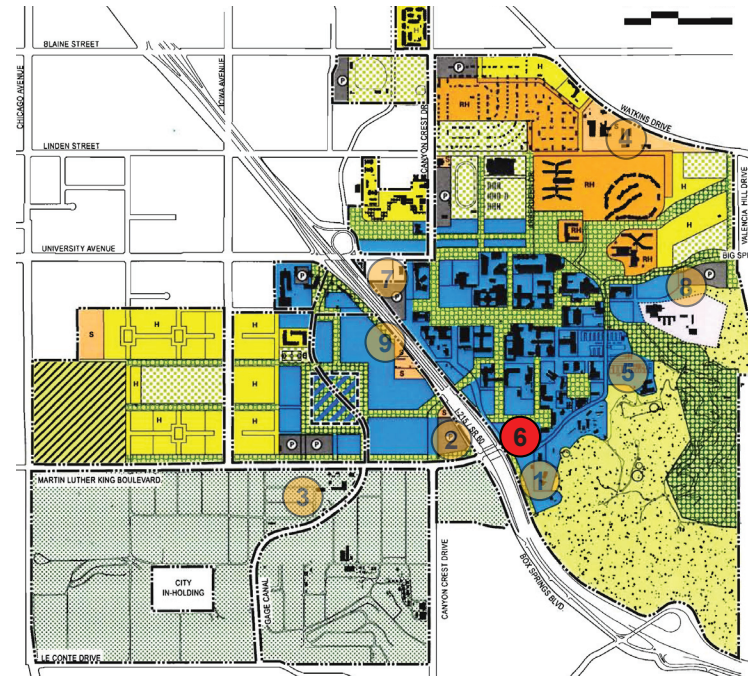
▪ Site development	2	▪ Demolition	0	2
▪ Building construction	4	▪ Redesign cost	0	
▪ Infrastructure	10	▪ Escalation/delay	0	
▪ Off-site construction	8	▪ Operational impact	10	
▪ Relocation of existing	0			

- Requires major redesign
- Delays occupancy due to redesign
- Additional cost for relocation of greenhouses, redesign, delays, construction

SUMMARY SCORE	Total points	30	55%	Percentage of the 55 available points
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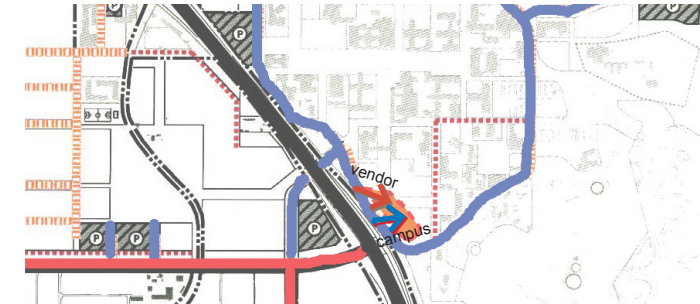
Reference Map



LRDP

SITE #6 PARKING LOT #6

Available site area: 3.2 acres
 Required site area: 3.2 acres
 LRDP Designated use: Academic
 Gradient cost premium: moderate (6%)



Transportation



View to Freeway from High End



Site

Utility	Exists	Length
Domestic/Fire Water	no	400'
Sewer	yes	—
Storm	yes	—
Natural Gas	yes	—
Power	no	400'
Copper	no	400'
Comm Fiber	no	400'
Fiber/Alarms & EMS	no	800'



View of Low End

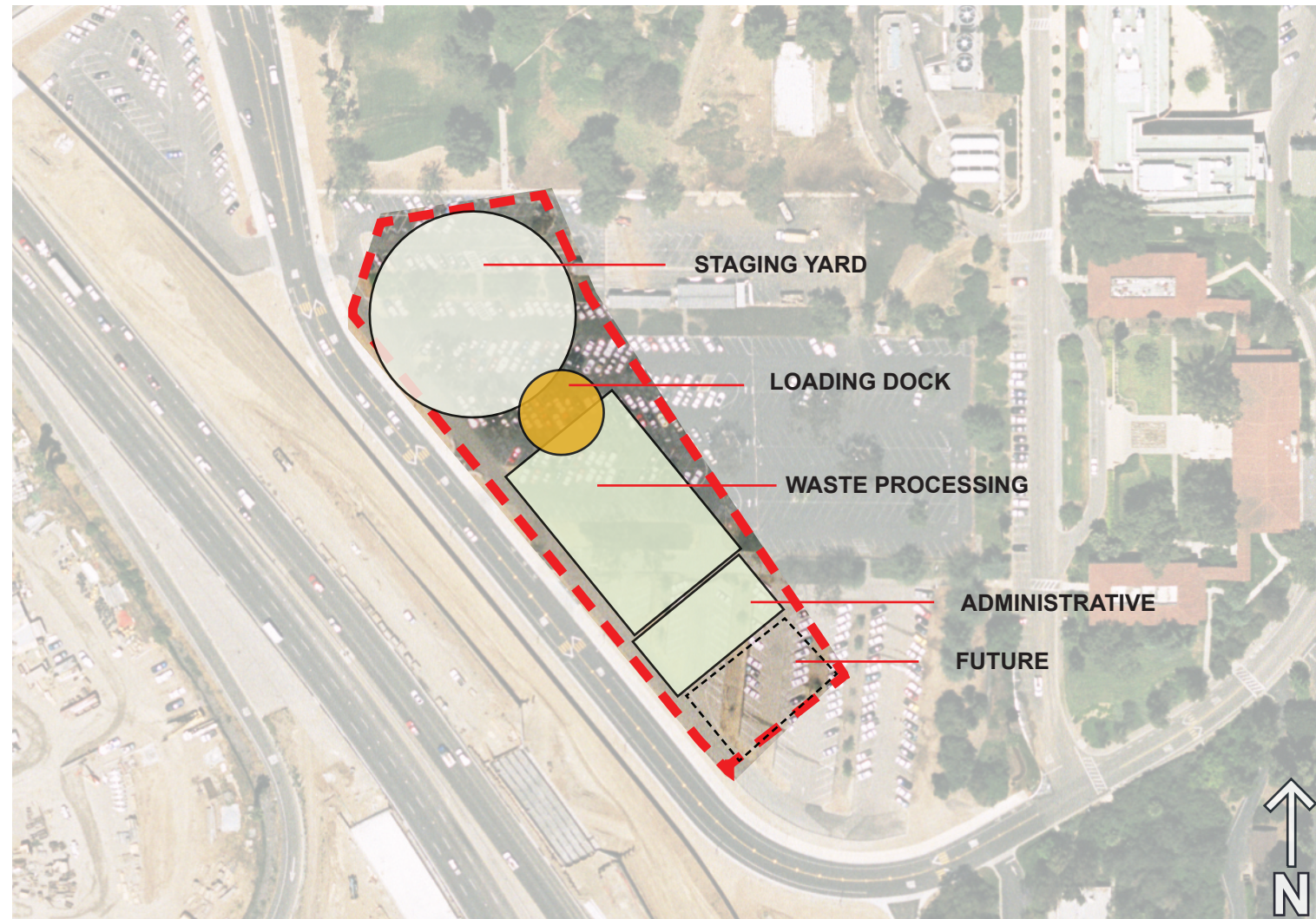


Aerial View From NE

SITE #6 ANALYSIS SUMMARY

Site 6 is parking lot 6, and is located within the LRDP East Campus Academic land use area, near the freeway. Because of the prominent location relative to MLK and the freeway, it is the prime location for a "signature" structure that announces the UCR campus to the public. A "signature" building is one that has

a unique architectural quality or element that is, or could become the campus logo (such as the campus carillon tower). It would also be a visual focal point from the proposed Administrative Center in the original Citrus Experiment Station buildings.



Concept Plan

CAMPUS External influences

Planning/LRDP Compliance with campus and district planning: 10 pts Max

▪ 2005 UCR LRDP	0	▪ Relocation of existing	10	2
▪ Codes regs/non TSDF	10	▪ Other Master Plans	0	
▪ CEQA	10			

- Requires amending the LRDP
- Displaces site for "signature" building adjacent to campus core

Campus Utilities Availability of campus service and utilities: 5 pts Max

▪ Domestic/fire water	3	▪ Telecom/data	3	4
▪ Sewer	5	▪ Fiber optic (alarms)	3	
▪ Storm	5	▪ Steam (optional)	5	
▪ Natural gas	5	▪ Chilled water (optional)	5	
▪ Power	3			

Access to Site: By public and private visitors 10 pts Max

▪ UCR haulers	10	▪ Emergency responders	10	8
▪ Commercial haulers	8	▪ Campus/public	10	
▪ Vendors	8			

- Commercial haulers use campus roads

PROJECT Program and Site Influences

Buildable Area Capacity of site: 10 pts Max

▪ Building	10	▪ Parking	10	10
▪ Yard/storage	10	▪ Circulation on-site	10	
▪ Future expansion	10	▪ Flexibility/configuration	10	

Site Qualities Qualitative characteristics of the site: 5 pts Max

▪ Security (day/night)	5	▪ Adjacent facilities	1	3
▪ Image/visibility	0	▪ Noise (external/internal)	3	
▪ Seismic	5	▪ Slope/topography	5	
▪ Vegetation/habitat	5	▪ Prevailing Winds	5	
▪ Soils/geotech	5	▪ Sustainable potential	4	

- Negates use of site for "signature" building

Constructability Site constraints on construction: 5 pts Max

▪ Access	5	▪ On-going operations	5	5
▪ Staging	5	▪ Adjacent operations	5	
▪ Vibration/noise	4			

Cost & Schedule Cost and schedule impacts: 10 pts Max

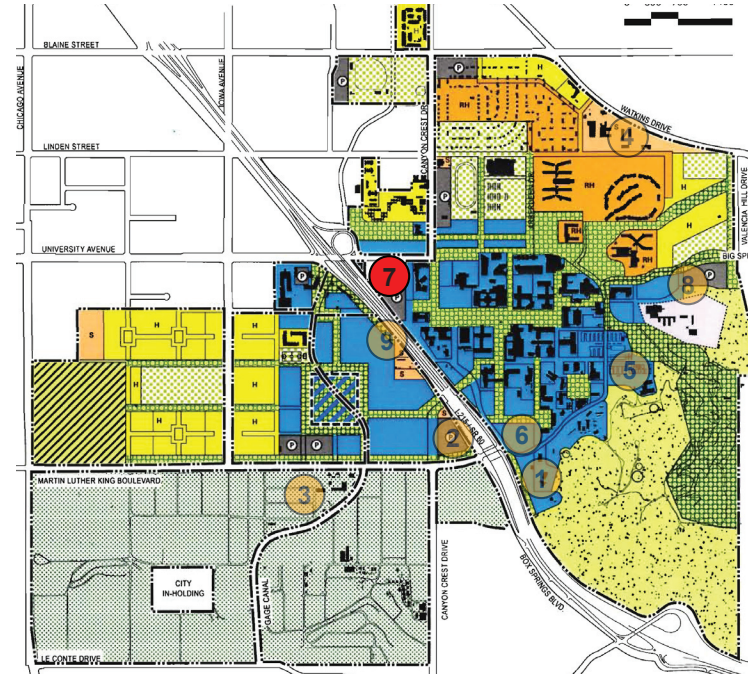
▪ Site development	10	▪ Demolition	10	6
▪ Building construction	10	▪ Redesign cost	0	
▪ Infrastructure	8	▪ Escalation/delay	0	
▪ Off-site construction	8	▪ Operational impact	10	
▪ Relocation of existing	6			

- Requires major redesign
- Delays occupancy due to redesign
- Additional cost for redesign, delays, construction

SUMMARY SCORE	Total points	38	69%	Percentage of the 55 available points
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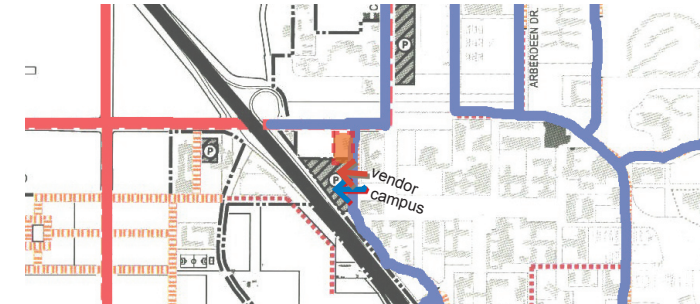
Reference Map



LRDP

SITE #7 LDS STUDENT CENTER

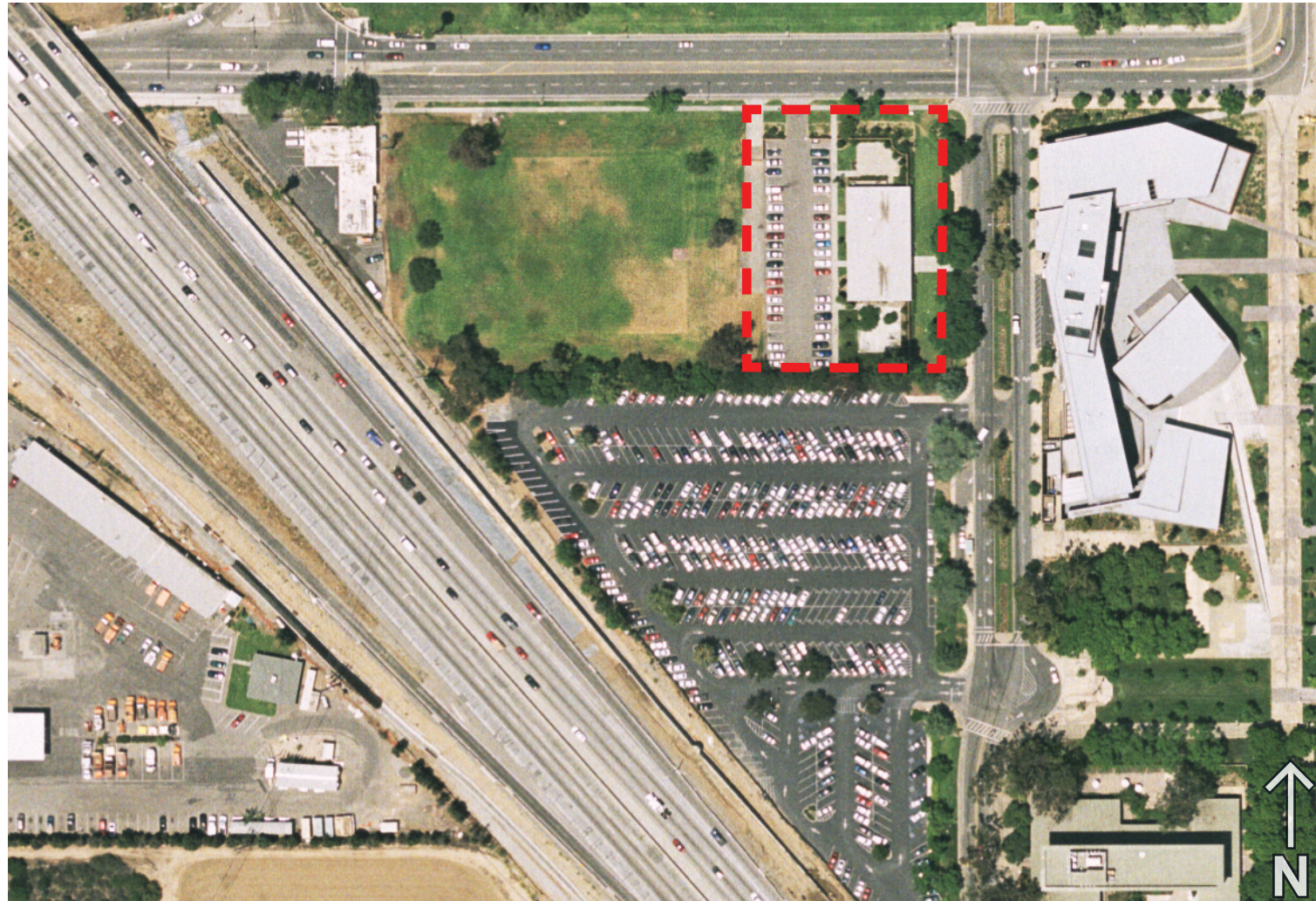
Available site area: 1.3 acres
 Required site area: 3.2 acres
 LRDP Designated use: Parking for area owned
 Building area not owned
 Gradient cost premium: none



Transportation



View from Reservoir



Site

Utility	Exists	Length
Domestic/Fire Water	yes	—
Sewer	yes	—
Storm	yes	—
Natural Gas	yes	—
Power	no	200'
Copper	yes	—
Comm Fiber	yes	—
Fiber/Alarms & EMS	no	800'



View to University Drive

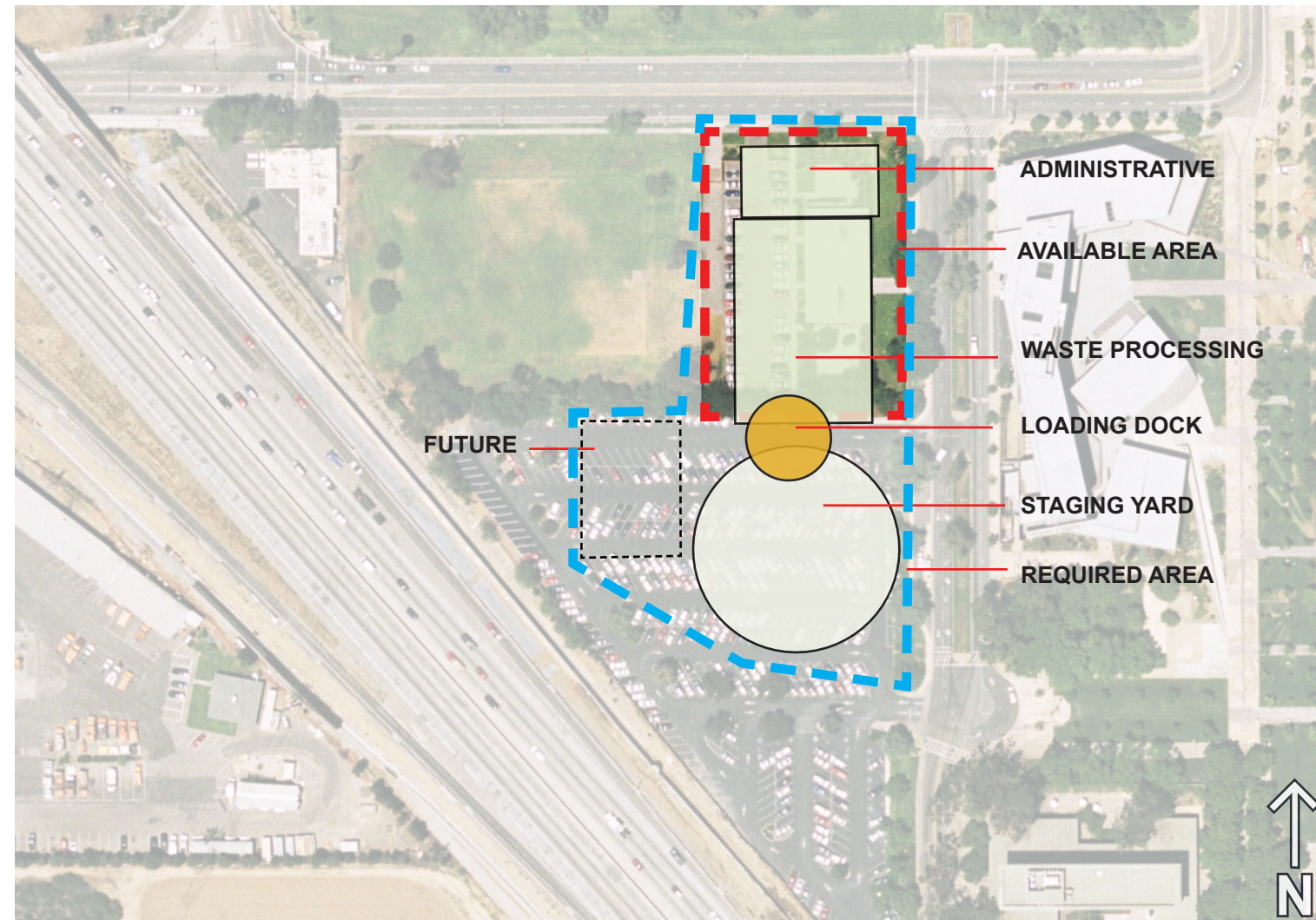


Aerial View From SE

SITE #7 ANALYSIS SUMMARY

Site 7 is the Latter Day Saints Student Center, located next to the City-owned, partially underground water reservoir. UCR discussed the possibility of purchasing the property on University Avenue before this study, and the cost to buy, demolish and rebuild a similar facility adjacent to the campus is prohibitively expensive. In addition, the site is too small to accommodate the required area. It's on a major campus entry, and would require

using most of the adjacent parking Lot 1, which is the primary parking lot with access the adjacent buildings at the south end of the Carillon Mall. The LRDP designates parking Lot 1, adjacent to the LDS Community Center, to be a future parking structure. Implementation of an EH&S on this site could require drastic downsizing or elimination of proposed parking structure.



Concept Plan

CAMPUS External influences

Planning/LRDP Compliance with campus and district planning: 10 pts Max

▪ 2005 UCR LRDP	0	▪ Relocation of existing	0	2
▪ Codes regs/non TSDF	10	▪ Other Master Plans	0	
▪ CEQA	10			

- Requires amending the LRDP
- Requires acquisition of non-campus property
- Requires relocation of existing

Campus Utilities Availability of campus service and utilities: 5 pts Max

▪ Domestic/fire water	5	▪ Telecom/data	5	4
▪ Sewer	5	▪ Fiber optic (alarms)	5	
▪ Storm	5	▪ Steam (optional)	0	
▪ Natural gas	5	▪ Chilled water (optional)	0	
▪ Power	4			

Access to Site: By public and private visitors 10 pts Max

▪ UCR haulers	10	▪ Emergency responders	10	8
▪ Commercial haulers	4	▪ Campus/public	10	
▪ Vendors	4			

- Access by commercial haulers at major campus entrance

PROJECT Program and Site Influences

Buildable Area Capacity of site: 10 pts Max

▪ Building	10	▪ Parking	10	10
▪ Yard/storage	10	▪ Access/circulation on-site	8	
▪ Future expansion	10	▪ Circulation on-site	6	

- Requires two thirds of required area to come from future parking structure

Site Qualities Qualitative characteristics of the site: 5 pts Max

▪ Security (day/night)	5	▪ Adjacent facilities	4	4
▪ Image/visibility	1	▪ Noise (external/internal)	4	
▪ Seismic	5	▪ Slope/topography	5	
▪ Vegetation/habitat	5	▪ Prevailing Winds	5	
▪ Soils/geotech	5	▪ Sustainable potential	4	

- Major campus entrance

Constructability Site constraints on construction: 5 pts Max

▪ Access	4	▪ On-going operations	5	4
▪ Staging	5	▪ Adjacent operations	5	
▪ Vibration/noise	4			

- Construction would use most of the remainder of the parking area.

Cost & Schedule Cost and schedule impacts: 10 pts Max

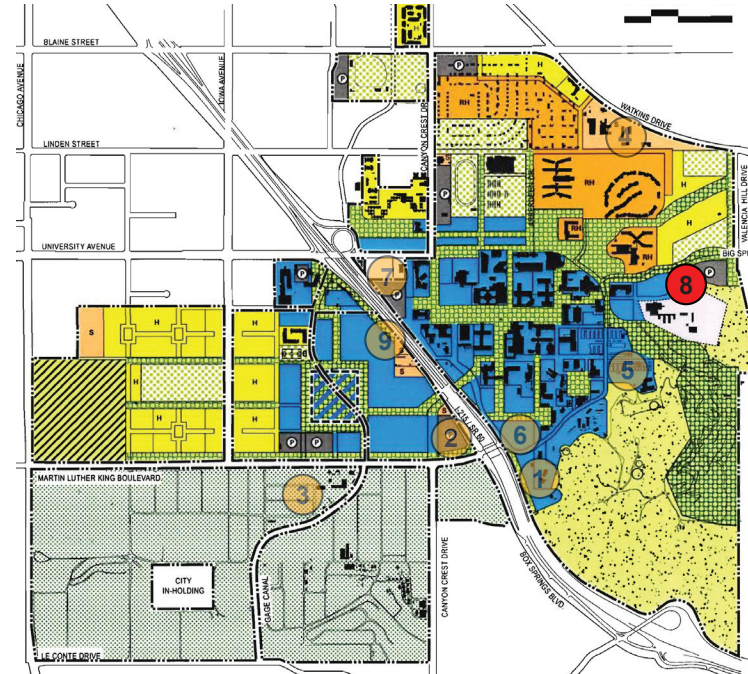
▪ Site development	10	▪ Demolition	0	2
▪ Building construction	10	▪ Redesign cost	0	
▪ Infrastructure	8	▪ Escalation/delay	0	
▪ Off-site construction	0	▪ Operational impact	10	
▪ Relocation of existing	0			

- Requires construction of replacement LDC facility
- Requires major redesign
- Delays occupancy due to redesign
- Additional cost for site purchase, replacement construction, redesign, delays, construction

SUMMARY SCORE	Total points	34	62%	Percentage of the 55 available points
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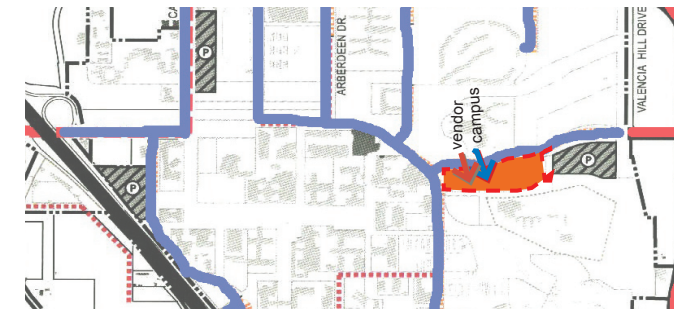
Reference Map



LRDP

SITE #8 PARKING LOT 13

Available site area: 3.2 acres
 Required site area: 3.2 acres
 LRDP Designated use: Academic
 Gradient cost premium: none



Transportation



View to East

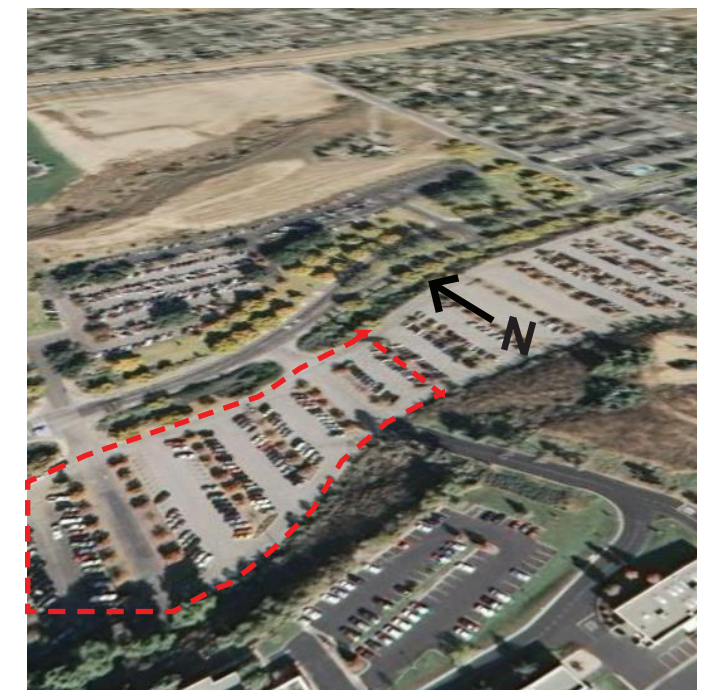


Site

Utility	Exists	Length
Domestic/Fire Water	no	300'
Sewer	yes	—
Storm	yes	—
Natural Gas	yes	—
Power	no	400'
Copper	no	400'
Comm Fiber	no	400'
Fiber/Alarms & EMS	no	600'



View to South

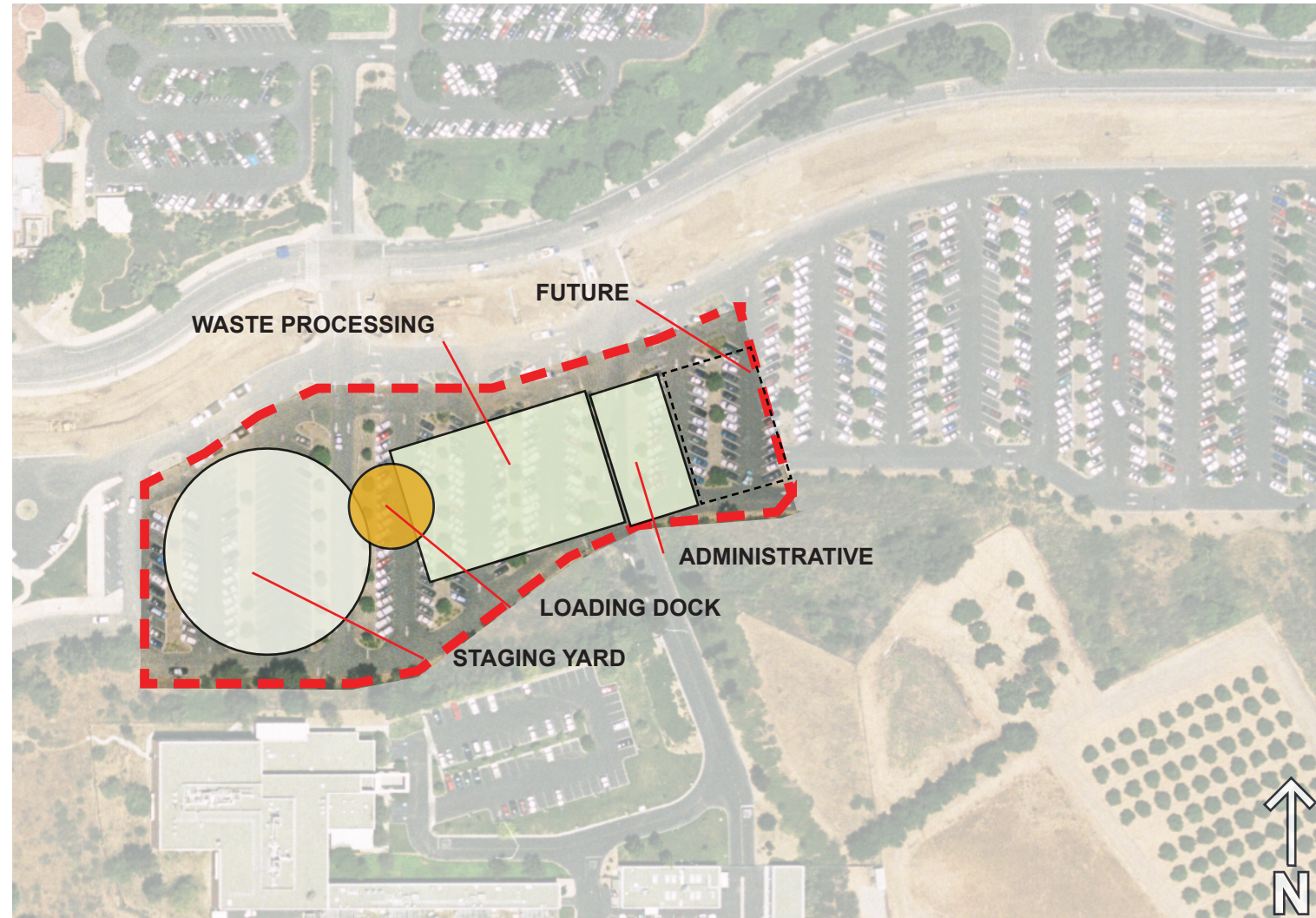


Aerial View From SW

SITE #8 ANALYSIS SUMMARY

Site 8 is on the edge of the LRDP Academic land use area at the west end of Parking Lot 13, located at the edge of the East Campus Academic Core. There will be costs for redesign and

construction cost escalation, plus the realignment of the access road serving the building to the south, and would require an LRDP amendment.



Concept Plan

CAMPUS External Influences

Planning/LRDP Compliance with campus and district planning: 10 pts Max

▪ 2005 UCR LRDP	0	▪ Relocation of existing	6	4
▪ Codes regs/non TSDF	10	▪ Other Master Plans	0	
▪ CEQA	8			

- Requires amending the LRDP
- Displaces proposed academic use

Campus Utilities Availability of campus service and utilities: 5 pts Max

▪ Domestic/fire water	2	▪ Telecom/data	3	4
▪ Sewer	5	▪ Fiber optic (alarms)	3	
▪ Storm	5	▪ Steam (optional)	0	
▪ Natural gas	5	▪ Chilled water (optional)	0	
▪ Power	3			

Access to Site: By public and private visitors 10 pts Max

▪ UCR haulers	10	▪ Emergency responders	8	8
▪ Commercial haulers	8	▪ Campus/public	10	
▪ Vendors	8			

- Requires rerouting road to Salinity lab

PROJECT Program and Site Influences

Buildable Area Capacity of site: 10 pts Max

▪ Building	10	▪ Parking	10	10
▪ Yard/storage	10	▪ Circulation on-site	10	
▪ Future expansion	10	▪ Flexibility/configuration	10	

Site Qualities Qualitative characteristics of the site: 5 pts Max

▪ Security (day/night)	5	▪ Adjacent facilities	2	4
▪ Image/visibility	1	▪ Noise (external/internal)	3	
▪ Seismic	5	▪ Slope/topography	4	
▪ Vegetation/habitat	5	▪ Prevailing Winds	5	
▪ Soils/geotech	5	▪ Sustainable potential	5	

Constructability Site constraints on construction: 5 pts Max

▪ Access	5	▪ On-going operations	5	5
▪ Staging	5	▪ Adjacent operations	5	
▪ Vibration/noise	4			

Cost & Schedule Cost and schedule impacts: 10 pts Max

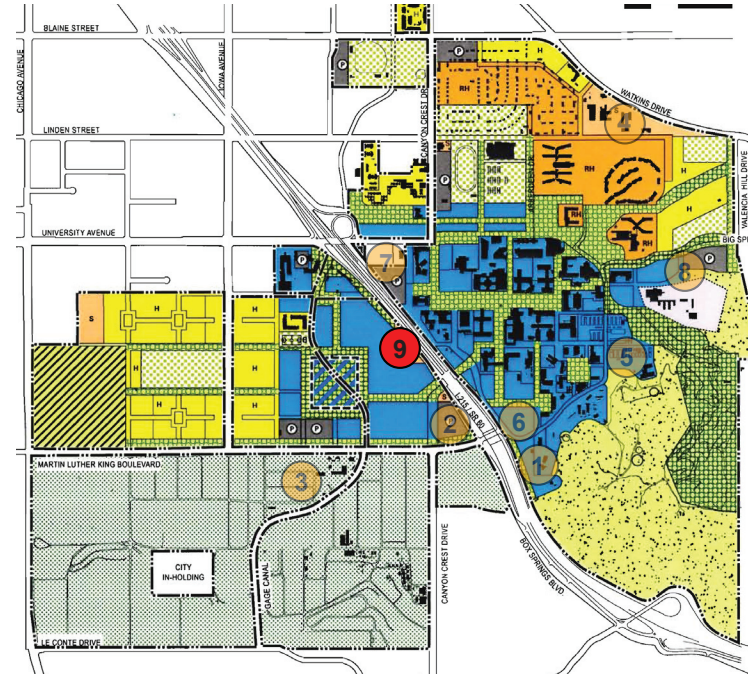
▪ Site development	10	▪ Demolition	8	6
▪ Building construction	10	▪ Redesign cost	0	
▪ Infrastructure	8	▪ Escalation/delay	0	
▪ Off-site construction	10	▪ Operational impact	10	
▪ Relocation of existing	10			

- Requires major redesign
- Delays occupancy due to redesign
- Additional cost for redesign, delays, construction, new road to salinity lab

SUMMARY SCORE	Total points	41	75%	Percentage of the 55 available points
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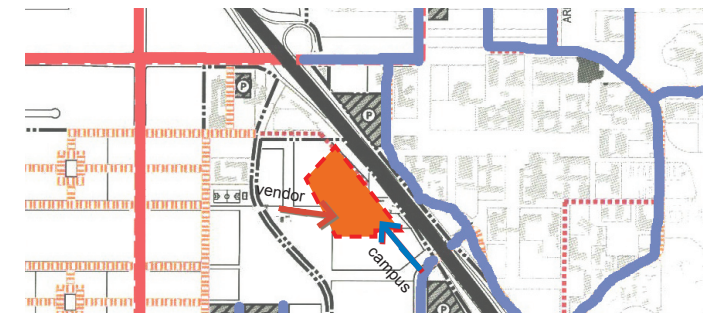
Reference Map



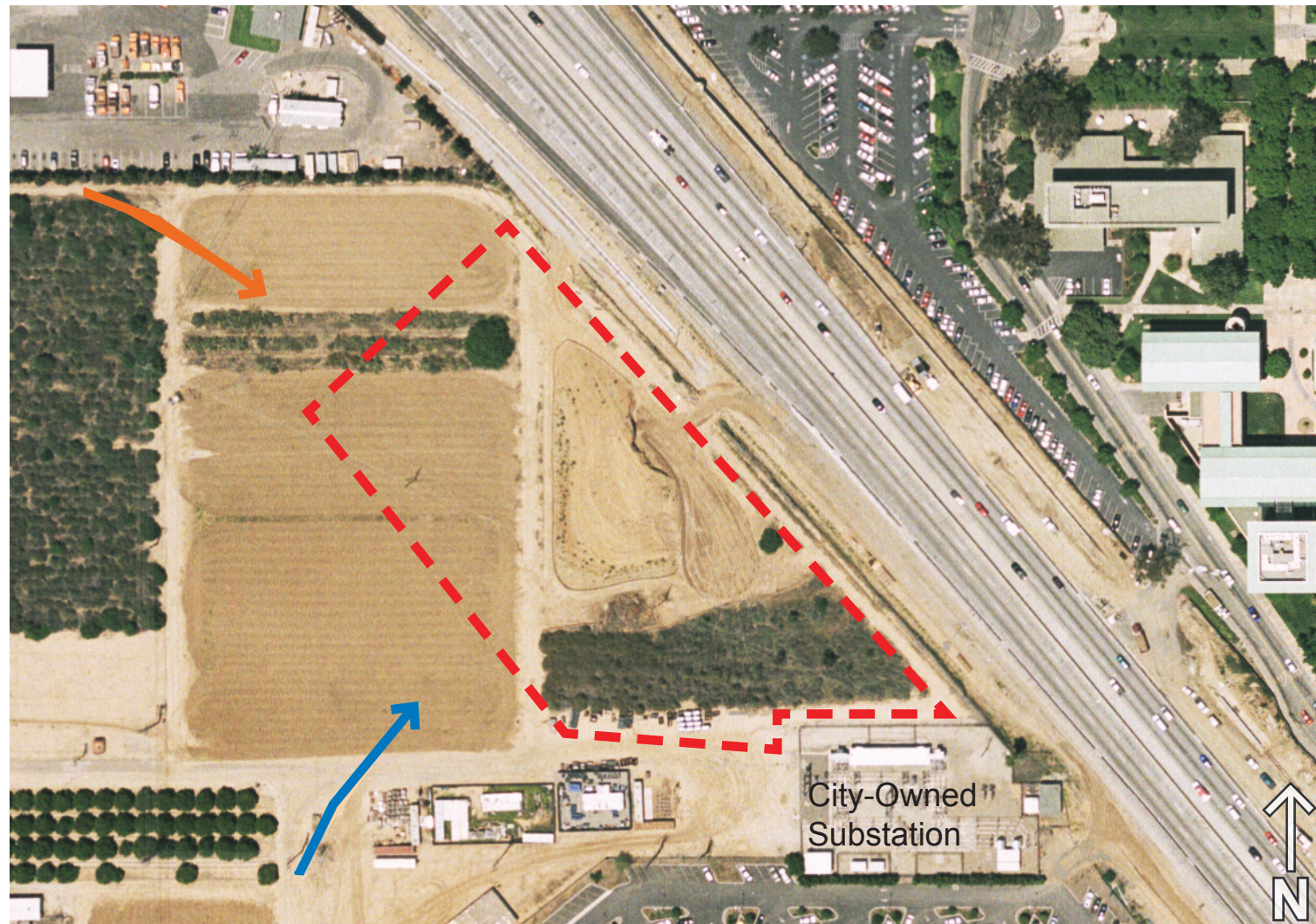
LRDP

SITE #9 - ELECTRICAL SUBSTATION

Available site area: 3.2 acres
 Required site area: 3.2 acres
 LRDP Designated use: Campus Support
 Gradient cost premium: none



Transportation



Site

Utility	Exists	Length
Domestic/Fire Water	no	600'
Sewer	no	1,900'
Storm	no	3,200'
Natural Gas	no	1,600'
Power	yes	—
Copper	no	1,400'
Comm Fiber	yes	—
Fiber/Alarms & EMS	no	2,200'



View NW from Freeway

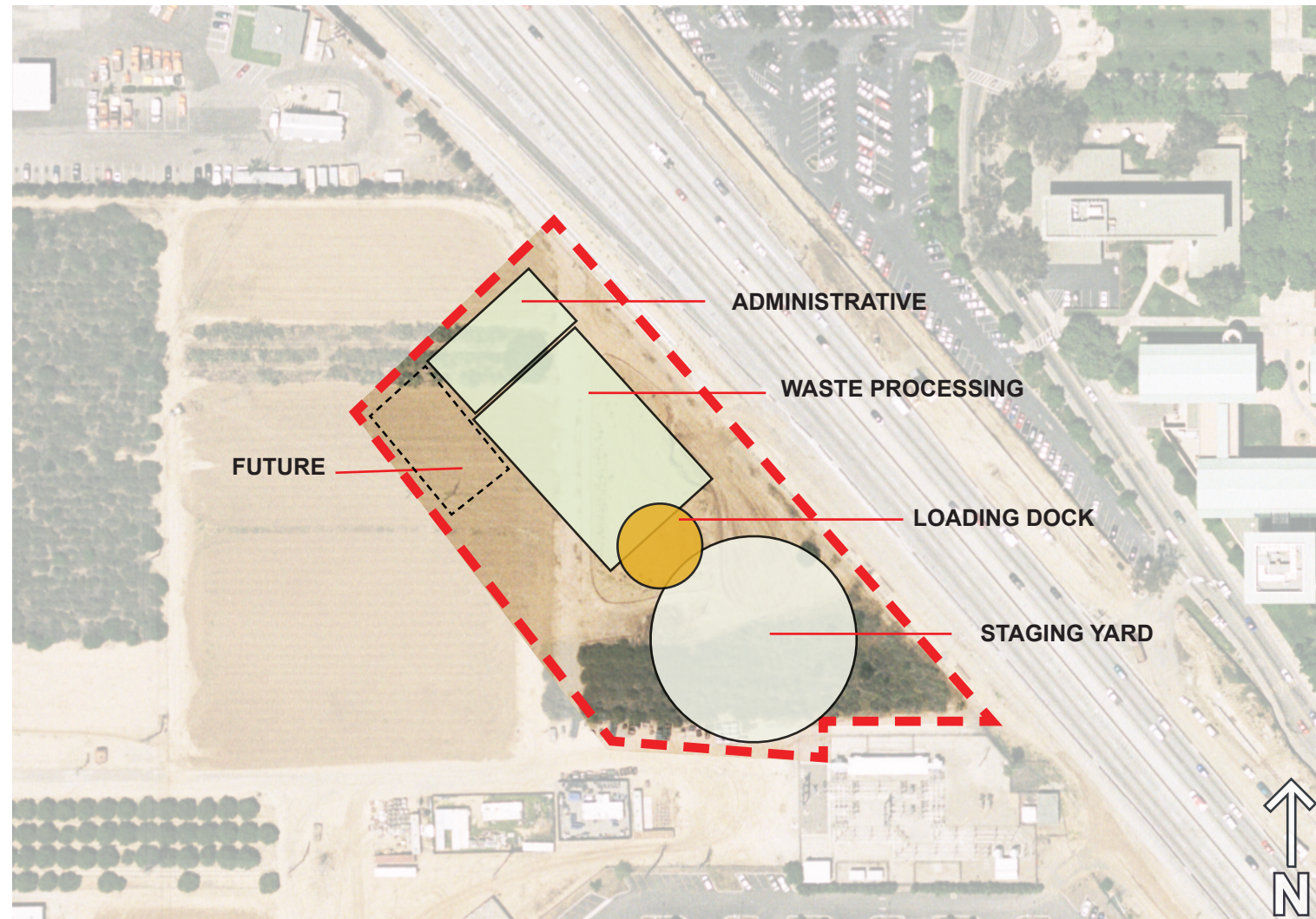


Aerial View From SW

SITE #9 ANALYSIS SUMMARY

Site 9 is an electrical substation area that the LRDP designates as Campus Support. It isn't intended to be an occupied use, and there are no streets, currently or proposed, that penetrate the Academic land use around it, so circulation to and from the site becomes an issue. It is lacking in utilities—several times more

costly than Site 2 to extend utilities, and would further encroach into the Academic land use area. Building a road is an additional expense, and would significantly impact the West Campus in order to provide access for campus haulers.



Concept Plan

CAMPUS External influences

Planning/LRDP Compliance with campus and district planning: 10 pts Max

▪ 2005 UCR LRDP	6	▪ Relocation of existing	10	8
▪ Codes regs/non TSDf	10	▪ Other Master Plans	6	
▪ CEQA	10			

- Requires amending the LRDP
- Major impact on Academic land use

Campus Utilities Availability of campus service and utilities: 5 pts Max

▪ Domestic/fire water	0	▪ Telecom/data	0	1
▪ Sewer	0	▪ Fiber optic (alarms)	0	
▪ Storm	0	▪ Steam (optional)	0	
▪ Natural gas	0	▪ Chilled water (optional)	0	
▪ Power	5			

- Requires significant utility extensions

Access to Site: By public and private visitors 10 pts Max

▪ UCR haulers	8	▪ Emergency responders	2	6
▪ Commercial haulers	4	▪ Campus/public	2	
▪ Vendors	4			

- Site access is poor

PROJECT Program and Site Influences

Buildable Area Capacity of site: 10 pts Max

▪ Building	10	▪ Parking	10	8
▪ Yard/storage	10	▪ Circulation on-site	6	
▪ Future expansion	8	▪ Flexibility/configuration	8	

- Requires using future academic land use

Site Qualities Qualitative characteristics of the site: 5 pts Max

▪ Security (day/night)	5	▪ Adjacent facilities	5	5
▪ Image/visibility	5	▪ Noise (external/internal)	3	
▪ Seismic	5	▪ Slope/topography	5	
▪ Vegetation/habitat	5	▪ Prevailing Winds	5	
▪ Soils/geotech	5	▪ Sustainable potential	4	

Constructability Site constraints on construction: 5 pts Max

▪ Access	4	▪ On-going operations	5	5
▪ Staging	4	▪ Adjacent operations	5	
▪ Vibration/noise	5			

Cost & Schedule Cost and schedule impacts: 10 pts Max

▪ Site development	6	▪ Demolition	10	6
▪ Building construction	10	▪ Redesign cost	2	
▪ Infrastructure	2	▪ Escalation/delay	0	
▪ Off-site construction	4	▪ Operational impact	10	
▪ Relocation of existing	10			

- Requires major redesign
- Delays occupancy due to redesign
- Additional cost for redesign, delays, construction, campus access road

SUMMARY SCORE	Total points	39	71%	Percentage of the 55 available points
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