

EAST CAMPUS FACILITIES STUDY

UNIVERSITY of CALIFORNIA at SANTA CRUZ

July 2008

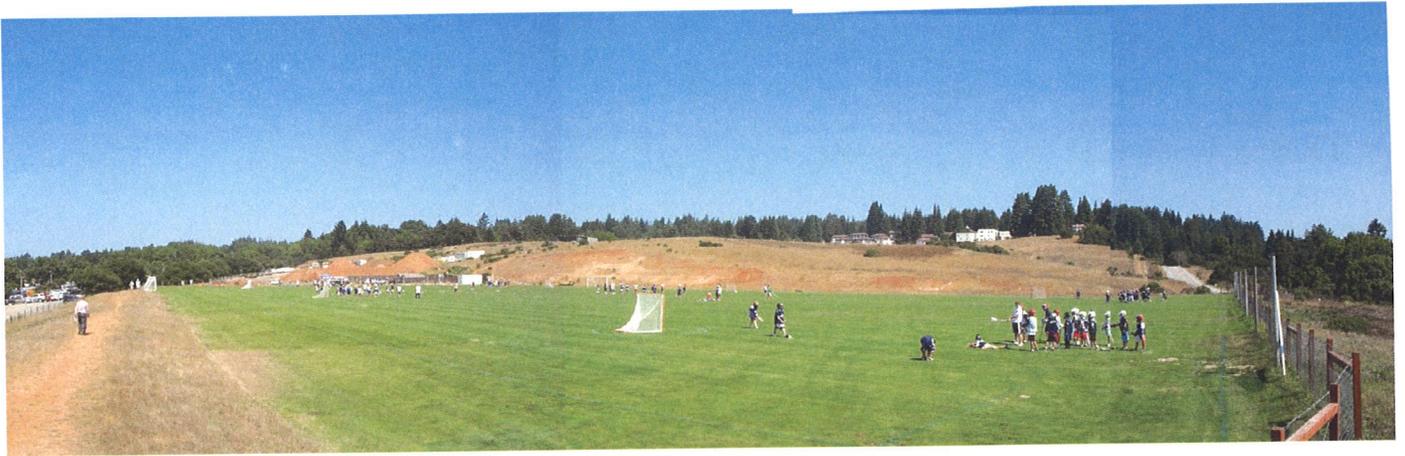


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EXECUTIVE SUMMARY

Situated on the east side of campus with a view over Santa Cruz and the Pacific Ocean, the lower East Campus is one of UCSC's most prominent edges. This edge is, and will continue to be, the shared home of the majority of the University's recreation facilities and the campus' East Remote Parking Facility.

The Lower East Field, originally built in 1987 with student funds, has exceeded its usable lifetime and has become increasingly costly to maintain. The potential reconstruction prompted the Office of Physical Education and Recreation and Sports (OPERS) to start planning for other future improvements to East Campus facilities. In the *Long Range Development Plan 2005-2020*, approved by the UC Board of Regents (September 2006), the East Campus Area is identified as one of the primary growth areas for the university's recreation facilities.

Transportation and Parking Services (TAPS) has also been considering the future of the East Campus; the East Remote lot (located just south of the Lower Field) is targeted for expansion under the 2005 *LRDP*. With both OPERS and TAPS considering changes to their existing facilities, it was an appropriate time to explore alternative futures for the Lower East Campus area. Both OPERS and TAPS agreed that it would be mutually beneficial to conduct a joint study.

The project team, in association with the client groups, established a set of project goals and a list of program elements to be studied. Program elements (detailed in Chapter II), include:

- An expanded East Lower Field designed to minimize the time loss and cost associated with field maintenance.
- Facilities and amenities that support field use, including: new field lighting, a scoreboard, pedestrian connections between the upper and lower fields, security fencing, a concession stand, a ticket booth, locker rooms, coaches offices, and storage for field equipment.
- An Indoor Events Center (3,000-5,000 seats).
- An Outdoor Events Venue (up to 3,000 seats) to be used for NCAA soccer games, other athletics, and campus events such as graduation.
- An expanded East Remote Parking Facility that will accommodate up to 3,000 parking spaces, an addition of approximately 2,000 spaces.
- A Transportation Hub that facilitates the transfer of passengers to the pedestrian campus.
- The construction of a connector road between Hagar and Coolidge that allows for the efficient flow of traffic to and from the East Collector lot, as well as a one-way bus loop between Downtown Santa Cruz and the campus.
- Approximately 10,000 square feet of TAPS administrative space, including: office space; a break room, a ticket center/permit sales office, and meeting space.

There is an inherent contradiction between the site's natural topography and its proposed



programmatic uses (large flat playfields, parking lots, and building pads). The primary challenge of the study therefore, was to accommodate program within the Lower East Campus in a unique and thoughtful way. Siting the parking and recreational facilities so as to preserve the grassland feeling of the site, and maintain important view sheds, was of utmost importance.

Concept alternatives were developed to explore a variety of siting and massing options. Alternative sites the new parking garage and fields roughly over their existing footprints and adds an additional field between the Upper and Lower fields. Alternative 3 is a more compact scheme that sites the parking garage between the upper and lower fields; it accommodates an additional artificial turf field on the roof of the parking structure. Alternative 5 changes the orientation of the parking structure so that its long end faces Hagar. The fields in this scheme remain largely where they are, while the Event Center is moved up the hill, and sited adjacent to the East Field House. Alternatives are described in detail in Chapter IV.

The alternatives were presented to the client group for feedback. In general, TAPS felt that each of the three alternatives needed to have a dedicated through road between Hagar and Coolidge, separate from the parking garage. OPERS specified that all fields needed to be at least 400' wide. Each alternative was revised to reflect these directives, in addition to other scheme-specific input. What is noteworthy about this phase of work is that the revisions had substantially different impact on the amount of program that could be reasonably accommodated on the site. Alternative 1A meets the parking requirement, but achieves a very marginal net gain in field space. Alt 3A adds parking without drastically reducing field acreage gain, while Alt 3B meets/exceeds the parking target, while also providing the highest net gain in field space. Alt 5A falls short of achieving the parking target and yields a marginal net gain in field space. The refined alternatives are detailed in Chapter V.

Refined alternatives were presented to the UC Santa Cruz Design Advisory Board for review. Alternative 5A was ultimately selected as the preferred alternative for the following key reasons:

1. **Phasing flexibility.** The existing East Remote lot must remain in use throughout the construction



of the new parking structure. In 5A, the parking structure is sited in such a way that it neither impedes renovation of the Lower Field, nor necessitates the full closure of the East Remote Parking Lot during construction. If UCSC's growth eventually requires the additional field space, the area south of the existing Lower Field could be so used.

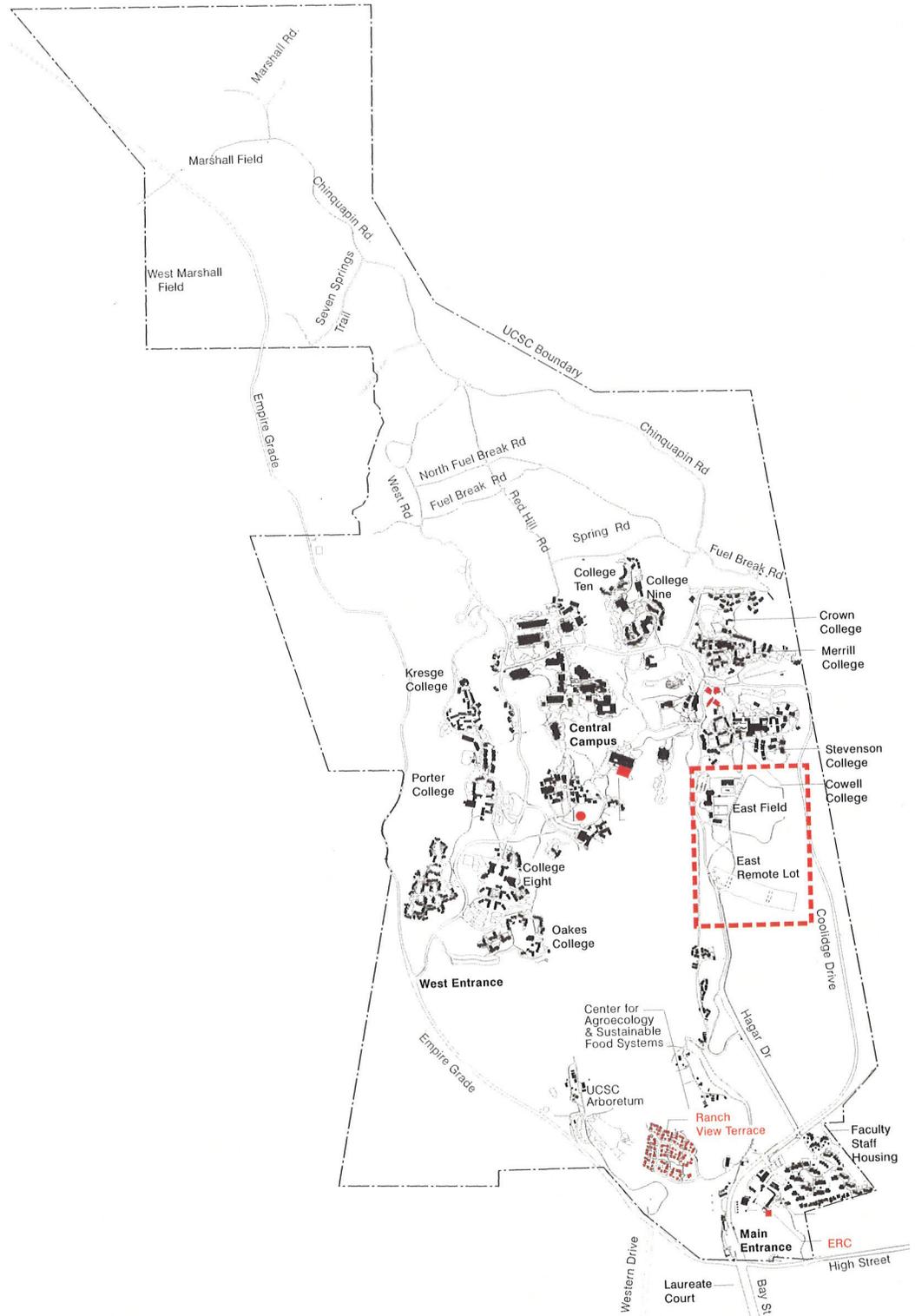
2. "Urban Edge" along Hagar. Orienting the parking garage north/south gave the entry to campus a desirable urban edge condition along Hagar, while simultaneously preserving the grasslands between the Upper and Lower Fields. Though potentially more costly, the plan minimizes the garage's visual impact by burying the parking structure in the uphill slope.

3. Potential to "zone" the East Campus. By siting the parking garage along Hagar and leaving the fields more or less where they are, scheme 5A establishes a "zoning" for the East Campus. Structures are located on the west portion of the site, close to the main road, while the fields occupy the middle and east edges of the site, leaving the views from campus to downtown and the ocean unobstructed.



UC SANTA CRUZ

The 2,000 acre UCSC campus is located 70 miles south of San Francisco between the northwest edge of the City of Santa Cruz and Santa Cruz mountains.



PHYSICAL CONTEXT

- Existing Buildings, 2006
- Approved Projects
- Project Study Area

INTRODUCTION

A. Context

NOTES

¹ Project figures from the LRDP
2005-2020

GROWTH EXPECTATIONS

Since 1988, full-time student enrollment at UC Santa Cruz has increased from 9,000 students to nearly 15,000. The 2005 Long Range Development Plan (LRDP)¹ projects that student population will grow by another 4,500 students by the year 2020. The number of faculty is projected to increase by approximately 370 (in direct proportion to the increase in enrollment), and the number of on-campus staff is anticipated to increase by roughly 980. Combined, these increases amount to a total campus population of close to 25,000 by 2020.

This study looks specifically at the East Campus and how it might be renovated and/or re-configured to best suit UCSC's future needs.

THE LOWER EAST CAMPUS FACILITIES

The Lower East Campus is home primarily to the Office of Physical Education, Recreation and Sports (OPERS) and to the Department of Transportation and Parking Services (TAPS). Current uses include a 900 space surface parking lot, temporary contractor staging area, indoor and outdoor recreation facilities, approximately 14.6 acres of natural turf playfields, pedestrian pathways, and grassland open space. The 2005 LRDP re-affirms the OPERS and TAPS' presences on the Lower East campus and accommodates their expansion.

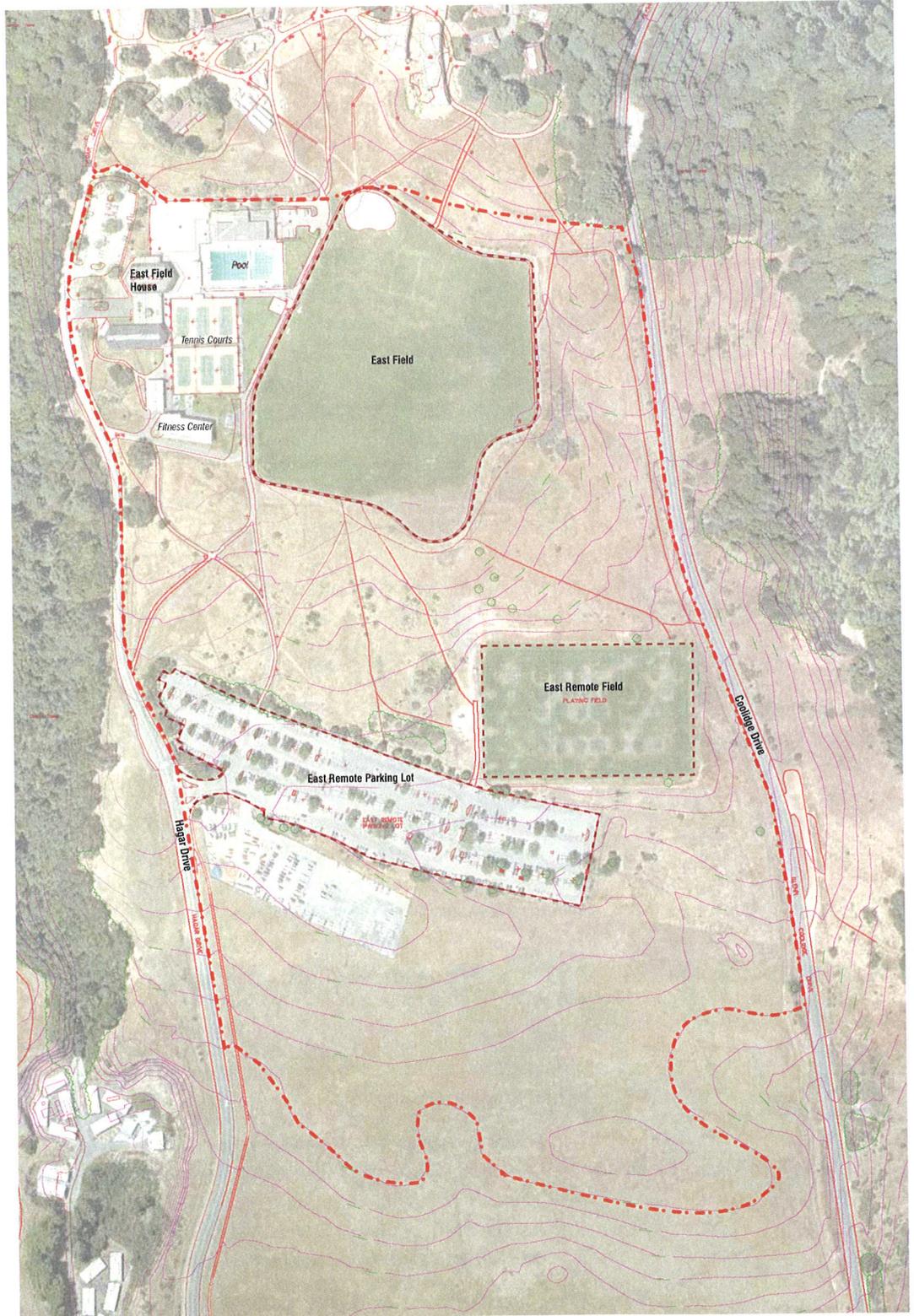
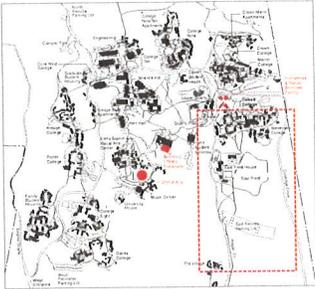
The East Campus Facilities Study proposes a preferred development scenario for the renovation and expansion of these facilities. New program elements include additional playfields, outdoor improvements for a sports venue (lighting, seating, lockers/restrooms), an indoor recreation/events center, a transportation multi-modal hub, transportation operation facilities, and structured parking. Specific cost elements for the renovation of the lower field are also included in the Appendix.

PREVIOUS STUDIES

Several previous studies have identified related programmatic needs and development options for the East Campus area. This report builds on the work-to-date, drawing from the knowledge contained in the following documents:

- *Student Life Facilities Feasibility Study (2003)*
- *Core East and Physical Education Areas Study (2003)*
- *UCSC Comprehensive Transit Study (2004)*
- *Long Range Development Plan 2005-2020 (Draft, 2005)*
- *Bay Corridor Preliminary Feasibility Analysis: Bus Rapid Transit (2006)*

These previous planning and campus community outreach efforts, as well as the Physical Planning



STUDY AREA

The planning area is made up of approximately 71 acres at the northern edge of the lower campus grasslands. It is bound by Hagar Drive on the west, and Glenn Coolidge Drive on the east. The north and south boundaries were determined by the project team, and based upon the site's natural topography.

Principles and Guidelines set forth in Chapter 4 of the 2005 LRDP formed the backbone of the planning process. New study, analysis and campus community outreach focused on filling gaps in knowledge and uncovering new programmatic and environmental considerations.

B. This Study

PROCESS

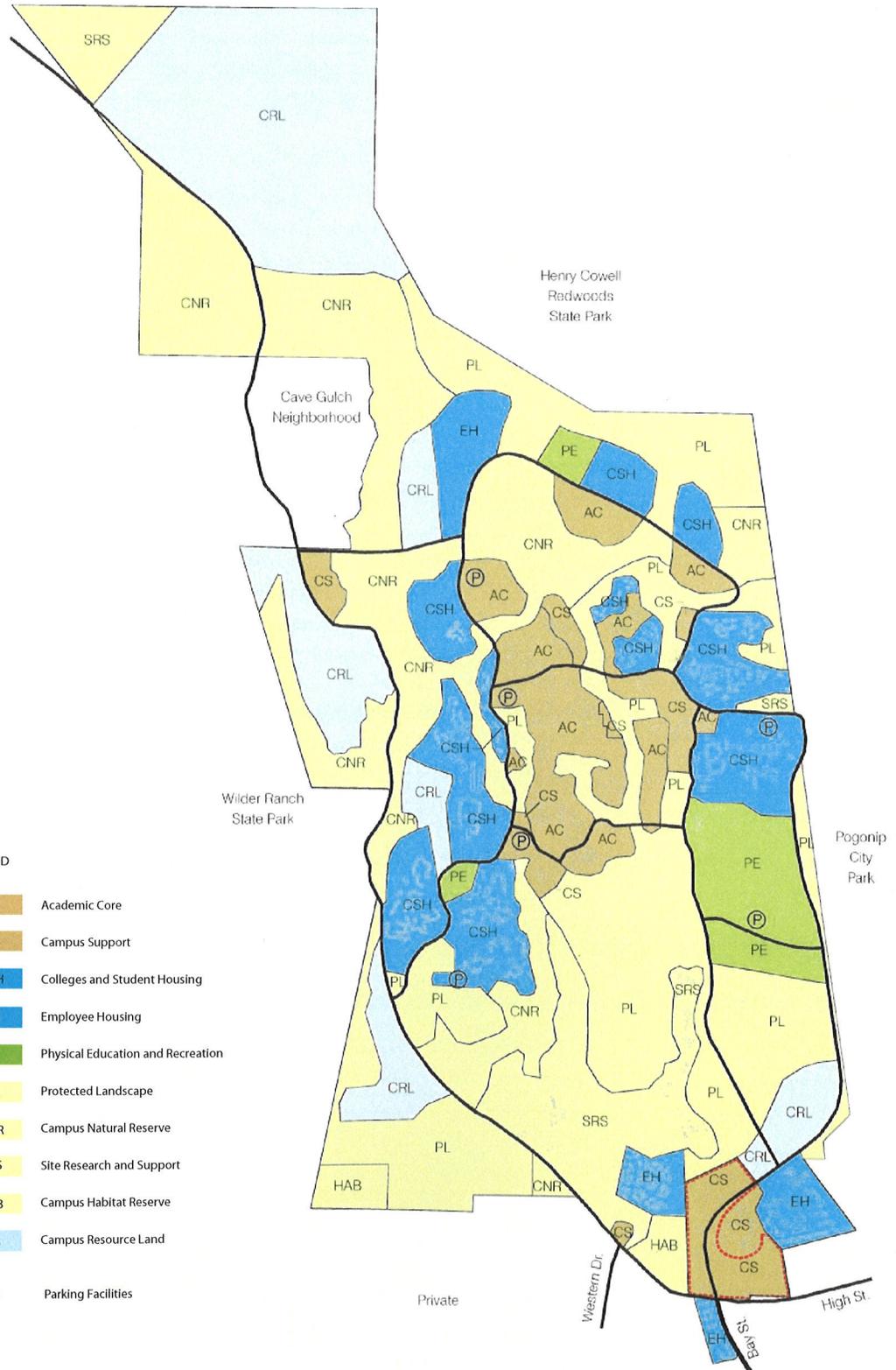
The East Campus Facilities Study was conducted between July 2006 and October of 2008. A kick-off meeting with representatives from the Office of Physical Education, Recreation and Sports (OPERS), Transportation and Parking Services (TAPS), and Campus Planning, established project goals and parameters. A series of site visits in July and August of 2006 identified the project area's physical opportunities and constraints.

The project team initially developed five concept sketches for consideration by Campus Planning. Feedback on these initial concepts helped the team to reduce the number of alternatives to three. These three were then further explored and developed into concept alternatives 1, 3, and 5.

Most critical to the development of alternatives was the physical siting of the new facilities so as to preserve the visual, environmental and natural resources that characterize the UCSC campus. As a result, the concept alternatives tested not only the accommodation of program elements on site, but also their visibility from different vantage points, and their impact on the land. Phasing was also a key consideration in the development of the concept plans: both OPERS and TAPS wish to continue to operate their facilities as much as possible throughout the construction process.

The concept alternatives (documented in Chapter IV of this report) were presented to the UC Santa Cruz client group during a workshop in August 2006. The alternatives were then further refined to reflect input given during the workshop. These refined alternatives (1A, 3A, 3B, and 5A) are documented in Chapter V.

In early October of 2006, the project team presented the refined alternatives to the UC Santa Cruz Design Advisory Board (DAB); the merits and shortfalls of each alternative were discussed extensively. In the end, the DAB recommended that Alternative 5A be advanced as the "preferred alternative" for the East Campus area. The Preferred Alternative, accompanied by sections, a phasing plan and supporting text, is documented in Chapter VI.



- LEGEND**
- AC Academic Core
 - CS Campus Support
 - CSH Colleges and Student Housing
 - EH Employee Housing
 - PE Physical Education and Recreation
 - PL Protected Landscape
 - CNR Campus Natural Reserve
 - SRS Site Research and Support
 - HAB Campus Habitat Reserve
 - CRL Campus Resource Land
 - P Parking Facilities



PLANNING ASSUMPTIONS

A. Land Use Designations

The LRDP 2005-2020 divides the Lower East Campus into two land use designations: “Physical Education and Recreation” and “Protected Landscape”:

PHYSICAL EDUCATION AND RECREATION (PE)

71 of the approximately 86 acres designated by the LRDP as “Physical Education and Recreation” space, fall within the East Campus Facilities study area. The LRDP states that the east area “has adequate space for additional indoor recreation facilities, playing fields, and courts.” The land use designation accommodates both parking and transit facilities as well as a future recreation and events center.

PROTECTED LANDSCAPE (PL)

The natural landscape of UCSC has always been the campus’ most distinguishing feature. Areas designated by the LRDP as “Protected Landscape” will be retained in an “undeveloped state as the campus grows. Any development within Protected Landscape areas will not impinge on its overall character.”

B. Land Use Assumptions

Programmatic assumptions for the East Campus Facilities Study are based on the strategies outlined in the 2005 LRDP and on input from representatives of the Office of Physical Education, Recreation and Sports (OPERS), Transportation and Parking Services (TAPS), and Campus Planning. In order to ensure that near-term projects do not conflict with long-term campus goals, all program elements—regardless of current funding availability—were considered in this study.

PHYSICAL EDUCATION AND RECREATION

The LRDP estimates that additional recreation facilities and several acres of new playing fields will be needed to address an existing deficit, and to serve the projected 2020 campus population.

While a portion of the north campus has been allocated for to Physical Education and Recreation for the purpose of building new indoor recreation facilities, (a swimming pool and courts), the plan assumes that additional fields and outdoor facilities will be developed in the “vicinity of the East Remote Lot.”

Physical Education, Recreation and Sports Annual Student Participation

Program	Current Student Participation	Future Student Participation ¹
Intramural Sports	4,000-5,000	6,000
Recreation Program	5,000	6,500
Physical Education	5,000	6,500
Varsity Student Athletes	300	400
Sports Clubs	400	600

OPERS acknowledges that the currently available space limits UCSC's ability to run all of their programs and activities. While the East Campus project does not immediately solve this space shortage, it does identify short-term strategies for maximizing the use of existing fields by allowing for night time use and by decreasing the number of days lost to field maintenance and poor play conditions. The study also includes longer-term recommendations for the expansion of recreation space and playfields.

During the academic year, OPER's primary clients are UCSC students, though their facilities (the fields in particular), are sometimes used by the larger campus and Santa Cruz communities. Sports camps occupy the facilities in the summer time, generating revenue for the university. Throughout the year the facilities are also used for a variety of campus and community events including, but not limited to, UCSC Graduations, a variety of athletics tournaments (swim meets, basketball, volleyball), and Summer Orientation.

Most Popular Sports by Program

Program	Sports Requiring Field Space	Sports Not Requiring Field Space
Intramural Sports	Soccer, Softball	Basketball
Recreation Program		Classes (hip hop, surfing); Clubs (martial arts); Outings (backpacking, rafting, kayaking); Holistic Health
Physical Education		Yoga, Swimming, Dance, Surfing, Fencing
Varsity Athletics	Soccer	Swimming, Tennis
Sports Clubs	Ultimate Frisbee, Rugby, Lacrosse, Baseball, Track (perimeter)	Badminton

NOTES

¹ Future participation estimates by Kevin "Skippy" Givens, OPERS Intramural Sports Coordinator. Skippy noted that future participation projections were based on the use of current facilities and that if additional facilities were added, participation levels would likely rise.

There is no indoor event venue on campus. Indoor events such as graduations, large lectures, career fairs, and sporting events are currently held in a variety of smaller venues scattered across campus. It is UCSC's vision to eventually build an indoor facility that is better suited to accommodate such events. The *Student Life Facilities Feasibility Study* (SOM, 2003) explored a variety of program alternatives for a campus Recreation/Event Center and ultimately determined that the Center would be best located in the East Campus planning area. This study uses the program assumptions outlined in the *Student Life Facilities Feasibility Study*.



CIRCULATION AND PARKING

As UCSC grows, filling gaps in the existing circulation network and expanding the campus' circulation and parking infrastructure will be crucial. The 2005 LRDP proposes a comprehensive transportation system that combines improved campus connectivity, parking collection points, transit hubs, pedestrian, and bicycle focused routes.

NOTES

² Number of spaces projected from actual parking ratios derived from parking utilization surveys and applied to projected increases in campus population, of which more than a third are related to on-campus housing.
Source: LRDP 2005-2020

³ The shift toward parking structures reflects the scarcity of sites for new parking facilities, the anticipated decrease in surface lot spaces from continuing infill development, and the need to reserve buildable land for academic program.
Source: LRDP 2005-2020

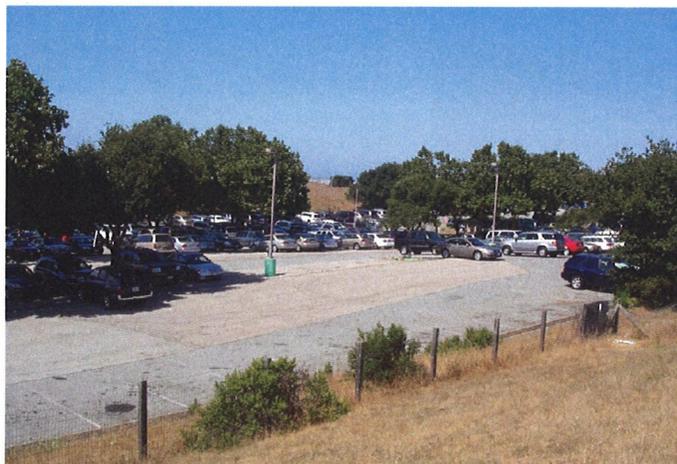
⁴ It is important to note that an additional 2,000 spaces (for a total of 3,000 spaces) is the *target* parking capacity for the East Remote Facility. Preservation of view corridors and topography as well as financial considerations may reduce this estimate.

Parking

The campus today has nearly 5,000 car parking spaces. On average, 70 to 80 percent of the campus parking supply is occupied on weekdays. While the campus has grown substantially in the last 10 years without a parking increase, TAPS does not feel that such trend is sustainable. In order to keep pace with the growth in campus population projected in the 2005 LRDP and the resulting increase in demand for auto travel and parking, transportation planners estimate that the campus will need as many as 3,100 additional parking spaces² to accommodate UCSC faculty, staff, students and visitors.

The parking strategy in the 2005 LRDP calls for a system of consolidated "collector" parking structures³ located at the edges of the central campus where they will be well connected to high-frequency transit and campus shuttle service. The East Remote lot has been identified as one such collector facility.

Currently, the East Remote lot is primarily used by students and can hold, with attendant parking, over 900 cars during peak hours. The expanded facility that TAPS envisions will increase the East Remote lot's capacity by nearly 2,000 spaces⁴, making it the campus' primary parking collection point and transit hub. Drivers would be encouraged to park at the East Remote facility and then walk or transfer to the campus shuttle service in order to reach their desired destination. In addition to parking and transit hub related uses, the East Remote facility will ideally house approximately 10,000 sf of TAPS office space to include a break room for campus shuttle drivers, restrooms, meeting space and a Ticket Center for event tickets and permit sales.





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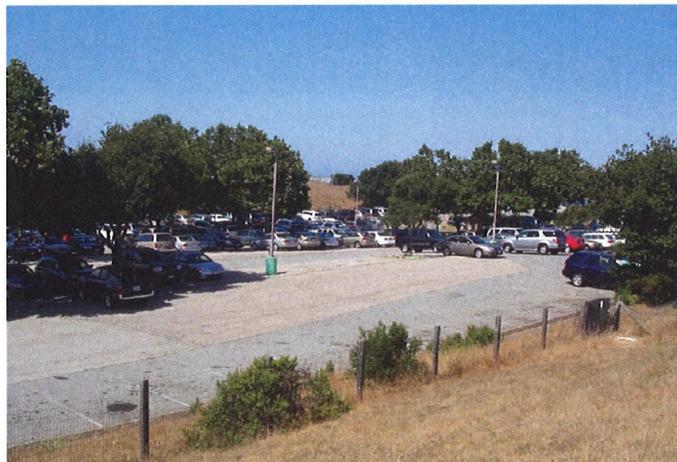
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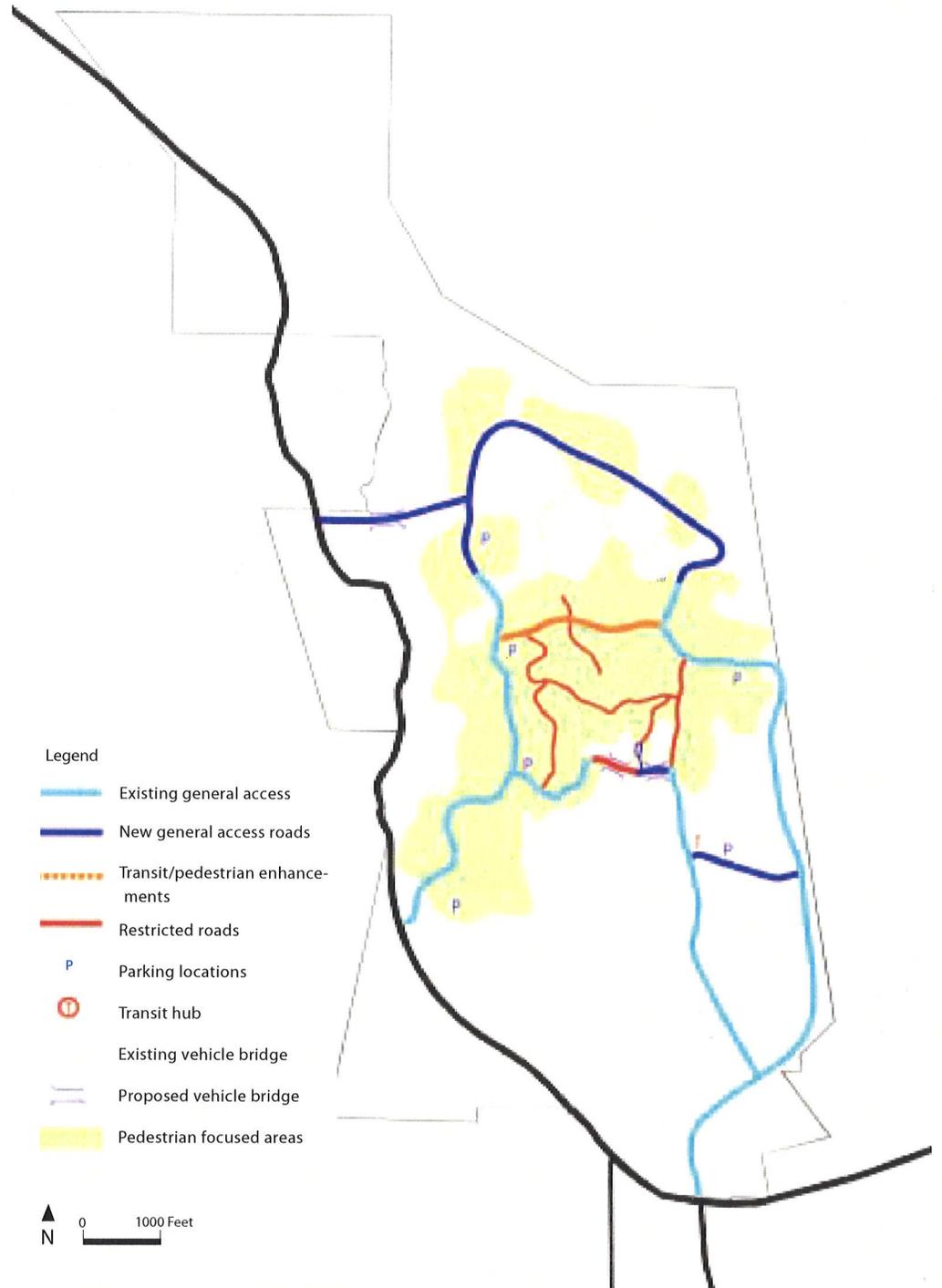
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Source: LRDP 2005-2020

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2005 LRDP VEHICLE CIRCULATION



Circulation

Transportation and Parking Services (TAPS) has been actively exploring new ways to improve campus circulation and to encourage faculty, staff, students, and visitors to use public transportation. The 2005 LRDP proposes constructing a new road between Hagar and Coolidge at the site of the existing East Remote Lot. The connector road would create a one-way loop for buses and vehicles accessing the campus and would improve the efficiency of ingress and egress at the parking facility. With this new road in place, Coolidge Drive would become the primary vehicular route to and from the central campus. Access to Hagar Drive would be restricted to service and transit vehicles; pedestrian and bicycle travel would be emphasized.

NOTES

⁵ Sources: *Bay Corridor Preliminary Feasibility Analysis: Bus Rapid Transit*; *UCSC Comprehensive Transit Study*

Ways to improve campus shuttle service and to establish faster transit connections between Downtown Santa Cruz and the UCSC campus have also been studied extensively and documented in both the *UCSC Comprehensive Transit Study* and the *Bay Corridor Preliminary Feasibility Analysis*. Recommendations include:

- Bus Rapid Transit (BRT) between Downtown Santa Cruz and the campus
- Dedicated transit priority lanes to improve travel times between campus and downtown
- A range of Intelligent Transportation Systems (ITS) including, though not limited to, vehicle prioritization and passenger information technology.⁵



C. Program Assumptions

PHYSICAL EDUCATION AND RECREATION

1. Additional field acreage to meet the demands of a growing campus population. Including:

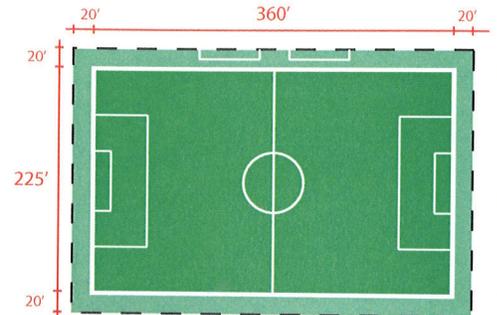
- An expanded East Lower Field designed to minimize the time loss and cost associated with maintenance.
- An Outdoor Events Venue (up to 3,000 seats) to be used for NCAA soccer games, other athletics and campus events such as graduation.
- A field that is able to accommodate 6 ultimate frisbee games simulatenously
- A field that is able to accommodate 3 softball games and one soccer game simultaneously

Soccer

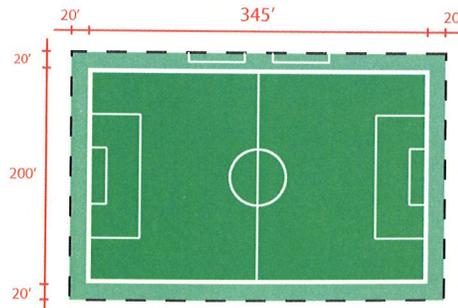
Preferred Orientation: Long Axis—
Northwest/Southeast

Slope: Longitudinal Crown with a 1%
slope from the center of each side

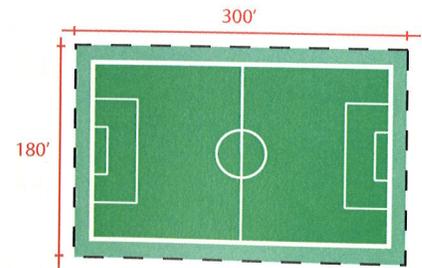
Practice Needs: Players can use a
1/2 field for practice.



(Optimum)



(Minimum)



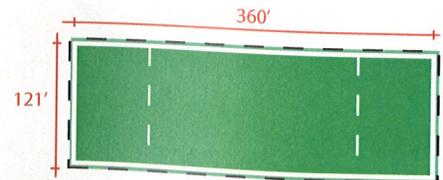
(Preferred Recreation / High School)

Ultimate Frisbee

Preferred Orientation: No standard.

Slope: No standard.

Practice Needs: Full field is necessary
for practice.

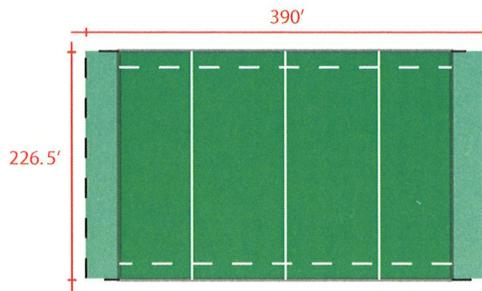


Rugby

Preferred Orientation: Long Axis; Northwest/Southeast

Slope: Longitudinal Crown with a 1% slope from the center of each side

Practice Needs: Players can use a 1/2 field for practice.

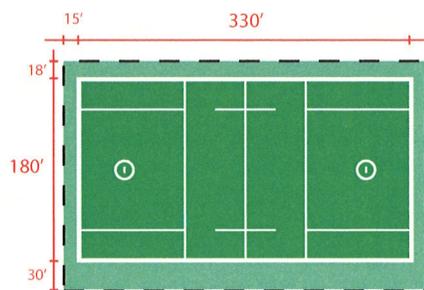


Lacrosse

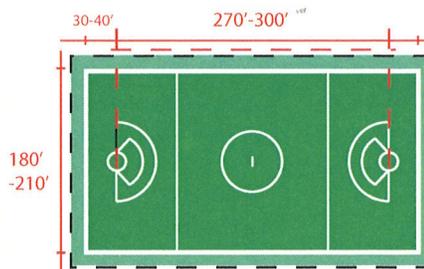
Preferred Orientation: Long Axis; Northwest/Southeast

Slope: Longitudinal Crown with a 1% slope from the center of each side

Practice Needs: Players can use a 1/2 field for practice.



(Men's)

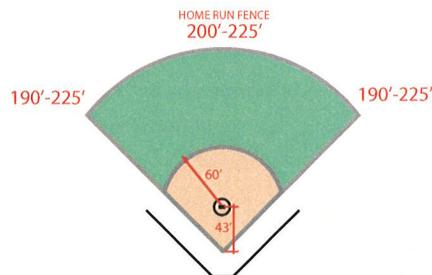


(Women's)

Softball

Preferred Orientation: No standard.

Slope: Baselines should be level. If the diamond must pitch, the slope should be no more than 2% from 3rd to 1st base, or visa versa. Minimum slope for turf areas outside the skinned area is 1% where there is good subsoil drainage, 2.5% when drainage is poor.



2. Facilities and amenities that support field use. Including: field lighting, a new field entry plaza with lighting, shaded spectator seating, a basic scoreboard, walkways to and from OPERS, security fencing, a concession stand, a ticket booth, men's and women's locker rooms, officials' locker rooms, coaches' locker rooms and offices, and storage facilities for maintenance equipment

3. An Indoor Events Center (3,000-5,000 seats).

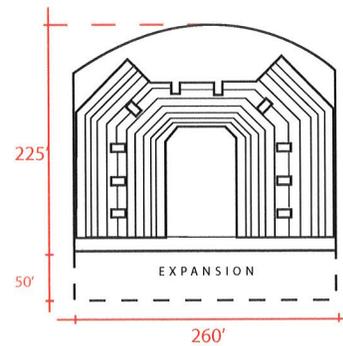
NOTES

⁶ Source: The study uses the Event Center typologies developed by SOM in the 2003 *Student Life Feasibility Study*.

Type A⁶

For Athletics Events:
3,000 Seats (Expandable to 4,000)

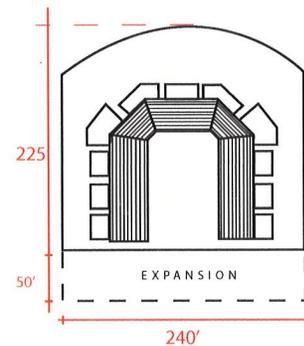
For Floor Events:
4,000 Seats (Expandable to 4,700)



Type B⁶

For Athletics Events:
2,500 Seats (Expandable to 3,200)

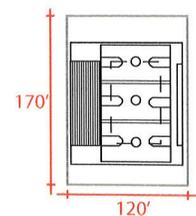
For Floor Events:
3,200 Seats (Expandable to 3,900)



Type C⁶

For Athletics Events:
1,000 Seats

For Floor Events:
1,700 Seats

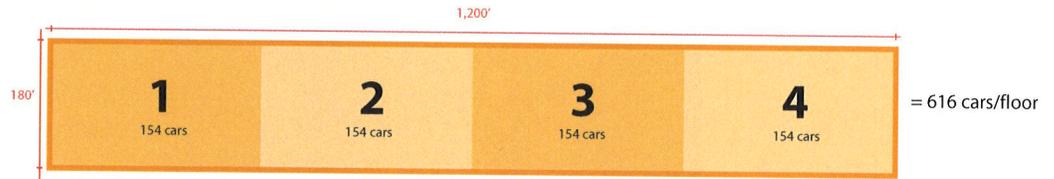
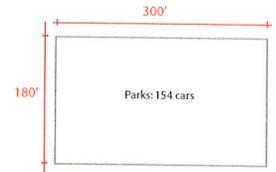


CIRCULATION AND PARKING

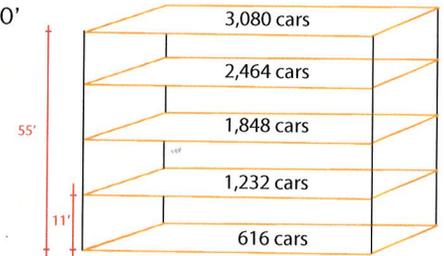
1. An expanded East Remote Parking Facility that will accommodate up to 3,000 parking spaces (an addition of 2,000 spaces)

Parking Module

Minimum dimensions for structured parking: 260'-300'
 (275' is usually the minimum recommended)
 x 125' (2 bays wide) OR 180' (3 bays wide)

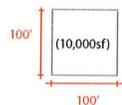


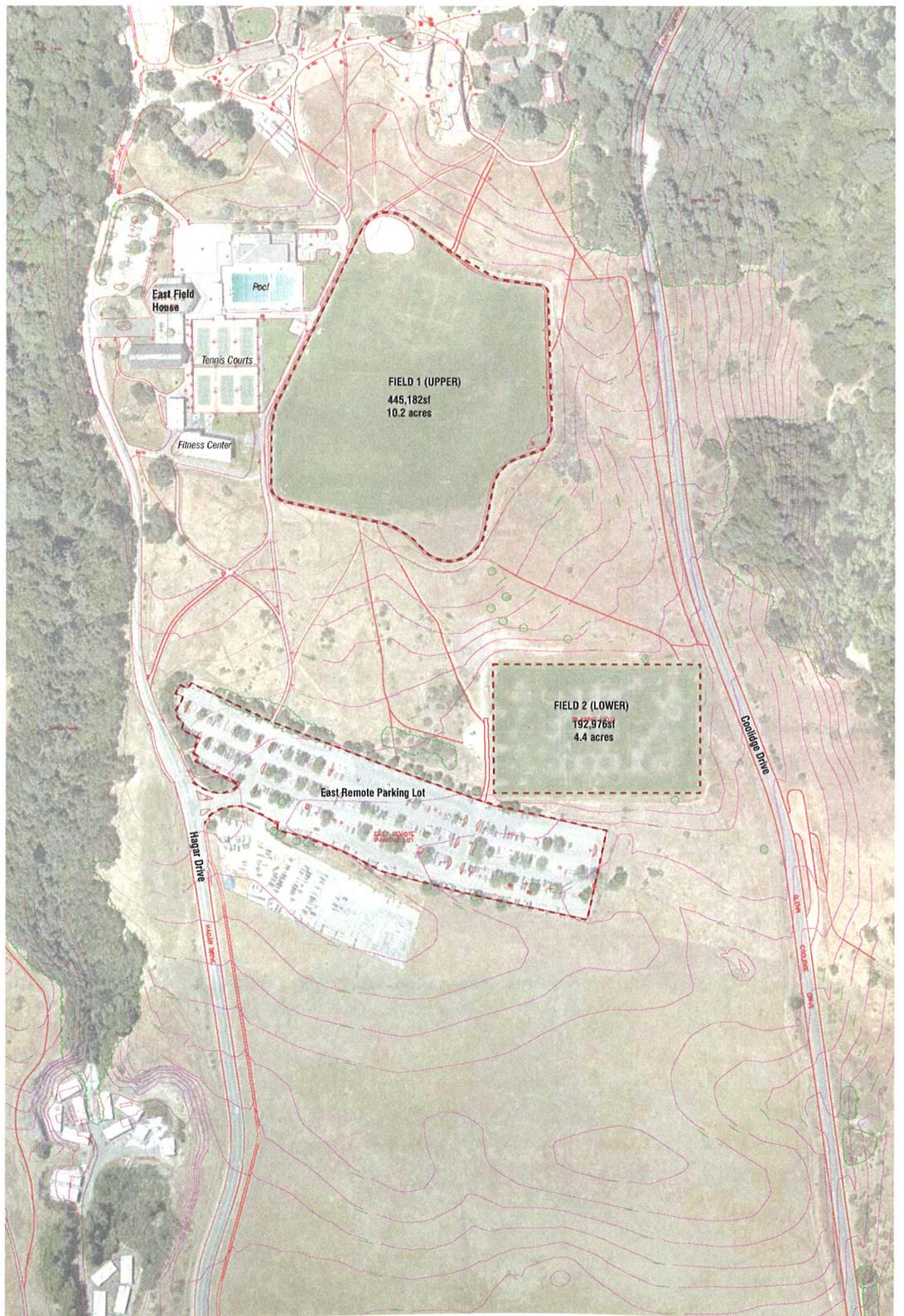
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 (275' is usually the minimum recommended)
 x 125' (2 bays wide) OR 180' (3 bays wide)



2. A Transportation hub that facilitates the transfer of passengers from one mode of transportation to another.
3. The construction of a connector road between Hagar and Coolidge that allows for the efficient flow of traffic to and from the East Collector facility.
4. Approximately 10,000 square feet of administrative space that accommodates TAPS offices, a break room for bus and shuttle drivers, a ticket center, and meeting space.

Office Space





EXISTING CONDITIONS

0 200 400





SITE ANALYSIS & PLANNING PRINCIPLES

A. Existing Conditions

DETAILS

Surface Parking: +/- 900 spaces
Total parking: +/- 900 spaces

Field 1 (Upper): 445,182 sf (10.2 acres)
Field 2 (Lower): 192,976 sf (4.4 acres)
Total field space: 638,158 (14.6 acres)

KEY FEATURES

The Lower East Campus is dominated by the Upper and Lower Fields and the East Remote Parking Lot. The fields are heavily used for recreation and competitive sports as well as for a variety of campus events. The parking lot is used primarily by students; during the fall, winter, and spring quarters attendants are used to stretch capacity. There is a grade change of approximately 66' between the upper and lower fields; a dirt pedestrian path connects the two.

PROS

- Unobstructed views of the lower campus grasslands, Downtown Santa Cruz and beyond from the upper campus and both fields
- Natural turf fields blend with surrounding grasslands

CONS

- Fields cannot accommodate all of OPERS programming
- No lights for nighttime field use
- Lower field drains poorly, increasing days lost to rain and maintenance
- Lower field has no facilities (water, restrooms, lockers, etc.)
- No accommodations for spectators
- Pedestrian paths can be difficult to navigate
- Parking lot is currently at capacity
- Attendant parking costs the university between \$90,000 and \$100,000 a year

View corridor from the Main Campus to the Lower East Campus and downtown Santa Cruz

Natural grassland slope between the Main Campus and Upper Field should be preserved

Existing OPERS Parking (Limited)

Existing OPERS Facilities

Knoll to be preserved

Slopes and steep topography could make building in these areas challenging

Existing Lower East Remote Parking Lot

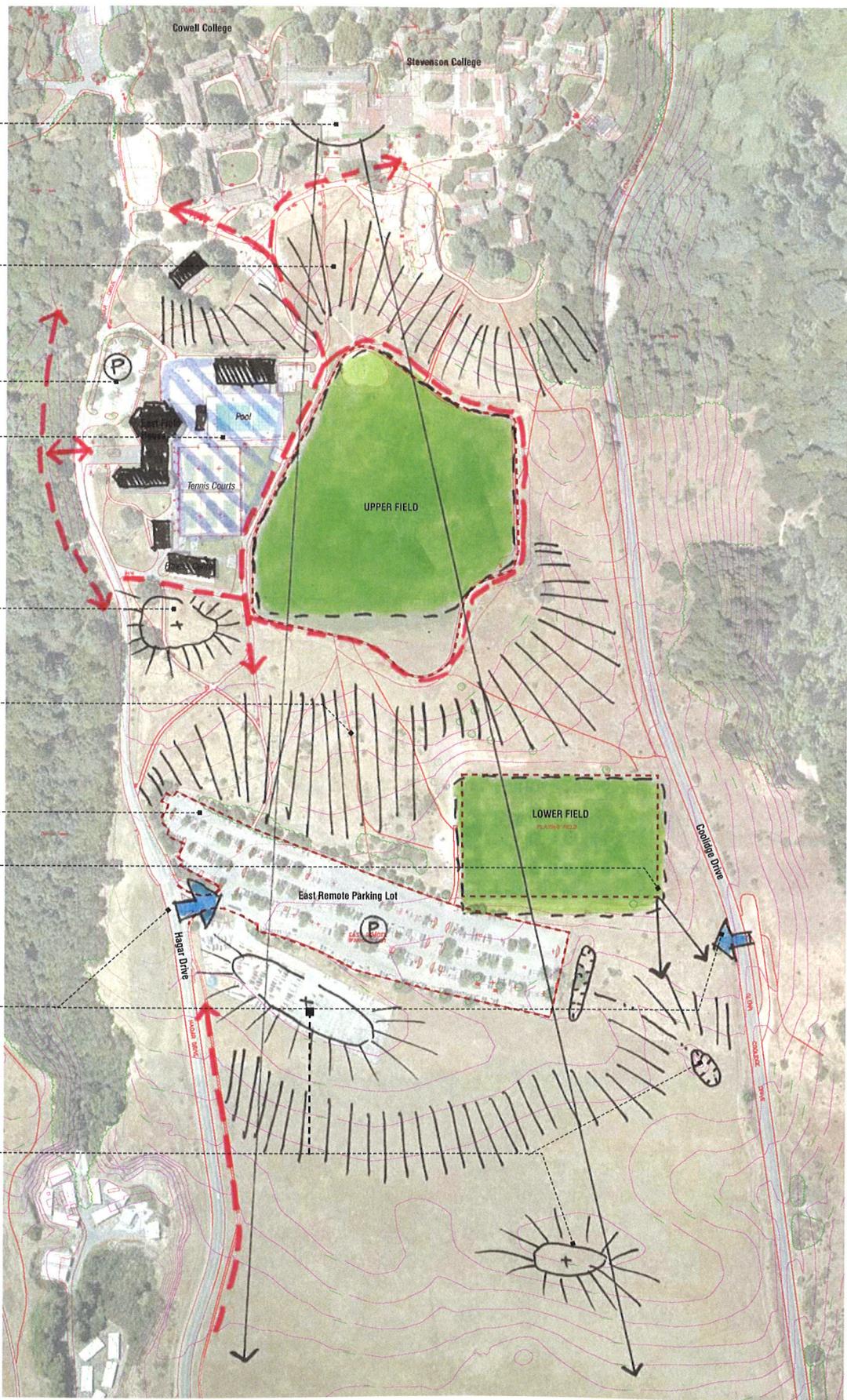
The southeast corner of the Lower Field offers a view of downtown Santa Cruz and the ocean

Access to existing parking lot; opportunity to provide connector road through to Coolidge Drive

Knolls to be preserved



SITE OPPORTUNITIES & CONSTRAINTS



B. Opportunities & Constraints

OPPORTUNITIES

Land designated for expansion. The lower East Campus has been identified as a growth area for Physical Education and Recreation as well as for Transportation and Parking Services.

Vehicular and Pedestrian Circulation. The site is well situated for a transit hub; the expanded parking facility and transit transfer point will allow TAPS to capture the majority of student, faculty and visitor vehicles entering the East Campus and restrict vehicular access in the central campus area. Furthermore, the construction of these new facilities creates an opportunity to improve pedestrian circulation between the Upper and Lower Fields.

Views. The study area has views to downtown Santa Cruz and the Monterey Bay. Siting new fields and public spaces to capitalize on those views will be a design priority.

Protected species habitats. The LRDP has identified the potential for burrowing owls in the grassland habitat and a survey will be required prior to any construction in the area.

CONSTRAINTS

Views. One of the project's greatest opportunities is also one of its greatest constraints. While the design of the site will capitalize as much as possible on the views of Santa Cruz and beyond, preserving those view sheds—as they currently exist—will be difficult. How structures, and the parking garage in particular, are sited is one of the project's foremost challenges. Of special concern is how changes to the Lower East Campus will affect views from the central campus.

Topography. With a grade change of nearly 90 feet between the Upper Field and the lowest portion of the East Remote Parking Lot, the site's topography also presents a considerable challenge.

C. Planning Principles

CAMPUS WIDE PLANNING PRINCIPLES

Chapter 4 of the 2005 LRDP establishes physical planning principles and guidelines for all campus development. Some of the principles outlined are especially relevant this study:

Sustainability

- Promote sustainable practices in campus development
- Promote sustainable practices in campus operations

Land Use Patterns

- Integrate the natural and build environment
- Encourage sustainability and efficiency in building layouts

Natural and Cultural Resources

- Respect major landscape and vegetation features
- Design exterior landscaping to be compatible with surrounding native plant communities
- Maintain natural surface drainage flows as much as possible

Access and Transportation

- Promote a walkable campus
- Discourage automobile use to, and on, the campus
- Consolidate parking facilities at perimeter campus locations

Campus Life

- Enrich the academic experience for students through the development of campus life facilities
- Create an array of facilities that enrich the quality of campus life

The Santa Cruz Community

- Provide an accessible and welcoming public-service environment



PLANNING PRINCIPLES SPECIFIC TO THE LOWER EAST CAMPUS

In addition to the campus-wide planning principles set in the *LRDP*, the project team established a set of project specific principles and guidelines:

Site Planning

1. Maintain the quality of the view shed. Elements to consider:
 - The views and view sheds on and off the campus
 - The impact of lighting at night
 - Berms and other landscaped forms that may minimize the visual impact of structures
2. Establish an efficient transition point that allows students, faculty, staff and visitors to move between various modes of transportation. Elements to consider:
 - Improved wayfinding (signage, maps)
 - Easy, safe pedestrian flow between all elements on-site (parking, transit, OPERS facilities, etc.) and to off-site locales
 - Next Bus technology
 - Parking management/access technologies (i.e. license plate recognition, pay-as-you-go technology, etc.)
 - BRT transit loading elements (i.e. turnstiles)
3. Create a safe and secure environment.

Environmental Considerations

4. Ensure the project is environmentally sustainable. Elements to consider:
 - Photovoltaic panels on the parking structure and/or bleacher shade structure
 - Energy and water usages associated with natural vs. artificial turf
5. Be sensitive to topography and landforms

Construction & Phasing

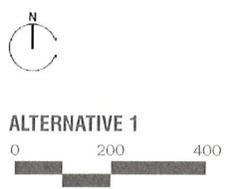
6. Plan and build in a way that is mutually beneficial to both OPERS and TAPS. Look for cost-saving/cost-sharing opportunities.
7. Develop a phasing strategy to minimize the impact on current operations.
 - Maintain at least 800 parking spaces throughout the construction process.
 - Minimize the amount of time the Lower Field is "off-line."

IV

CONCEPT ALTERNATIVES



The concept alternatives presented in this chapter test the accommodation of program elements discussed in Chapter II, taking into account the site analysis and planning principles outlined in Chapter III. Phasing is a key consideration in the development of the concept plans: both OPERS and TAPS wish to continue to operate their facilities throughout any construction process.



ALTERNATIVE 1

Alternative 1

DETAILS

Structured Parking: 3 levels
 +/- 1,950 spaces
 Surface: +/- 115 spaces
Net new parking: +/- 1,265 spaces

Field 1: 398,460 sf (9.1 acres)
 Field 2: 290,000 sf (6.6 acres)
 Field 3: 80,500 sf (1.8 acres)
Total new field space: 768,960 sf (17.5 acres)
Net new field space: 130,802 (3 acres)

KEY FEATURES

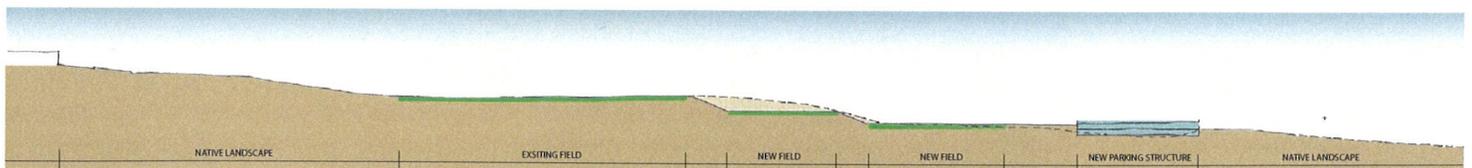
Alternative 1 leaves Field 2 and the parking facility roughly where they currently exist, adding a field in the area presently being used for construction staging, and another between Field 1 and Field 2. Office space for TAPS is built into the parking. The Event Center is tucked into the hillside halfway between Field 2 and the Field House.

PROS

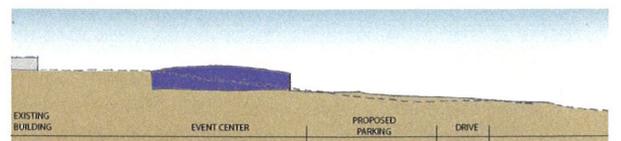
- Reuses existing parking area for the parking structure location
- Structure is accessible from both Hagar and Coolidge
- Additional field space is provided mid-terrace
- Maintains views and vistas from upper terraces
- Event center is located at the entrance to campus for easy accessibility and visibility

CONS

- Parking structure occupies a large footprint
- Gain in field acreage is marginal
- NCAA field is oriented east-west (not the preferred orientation)
- Phasing: Complicated to maintain parking during construction
- Design would make maintaining existing parking difficult
- TAPS office space is not directly adjacent to transit stop/plaza
- Parking structure may obstruct views from lower fields



Section A



Section B



ALTERNATIVE 3



Alternative 3

DETAILS

Structured Parking: 3 levels; Fields on Level 4
 +/- 1,860 spaces
 Surface: +/- 80 spaces
Net new parking: +/- 1,140 spaces

Field 1: 398,460 sf (9.1 acres)
 Field 2: 300,000 sf (6.9 acres)
 Field 3 (on top of parking): 213,600 sf (4.9 acres)
Total new field space: 912,060 sf (20.9 acres)
Net new field space: 273,902 (6.3 acres)

KEY FEATURES

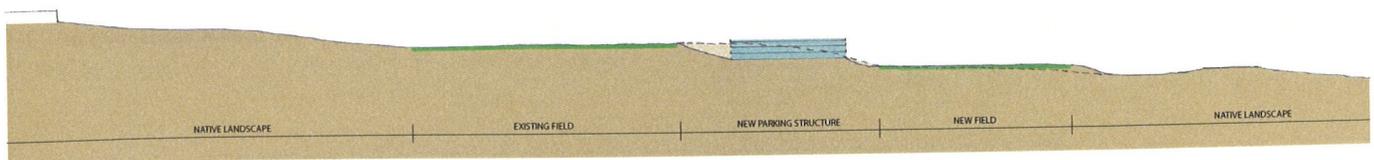
Alternative 3 expands Field 2 to include three full-size regulation soccer fields and sites the parking garage between Fields 1 and 2. Additional recreation space is provided on the top deck of the garage. The TAPS office space is located adjacent to, but outside, the parking giving it a more visible presence.

PROS

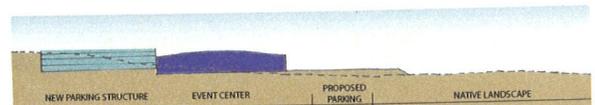
- Parking structure is absorbed by mid-terrace slope
- Structure is accessible from both Hagar and Coolidge
- Artificial turf fields on the roof of parking structure add acreage and screens parking from upper campus
- Plan maintains views and vistas from upper terraces
- Event Center is easily accessible from the parking structure and provides the opportunity to create an architectural presence at this key transition point on campus
- NCAA soccer field is in preferred orientation
- Condensed layout reduces impact on the landscape
- Plan is conducive to multiple steps of phased construction; there is the potential to maintain the existing parking while new fields and parking are being constructed
- Provides a clear identity and presence for TAPS

CONS

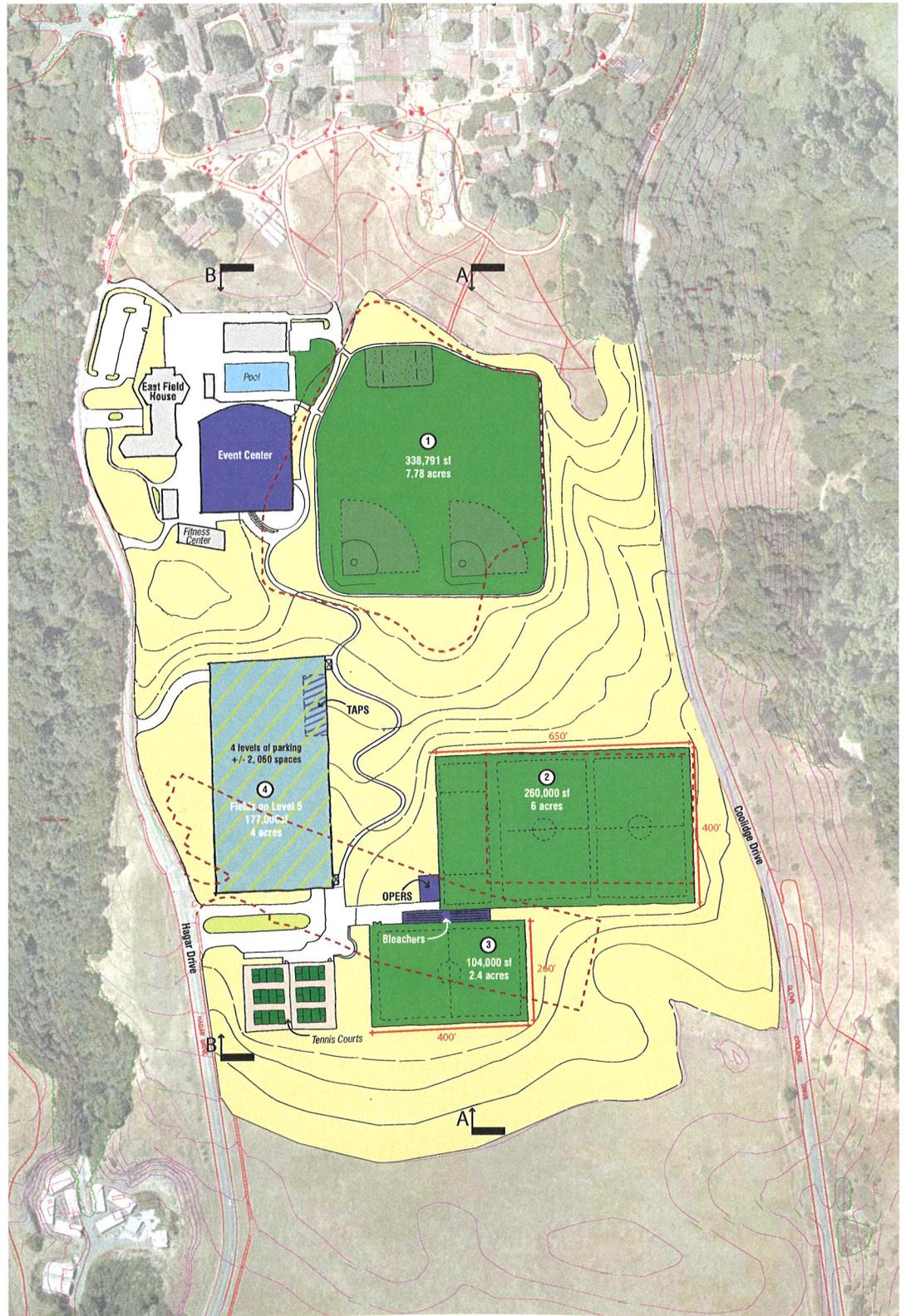
- Parking structure occupies a large footprint
- Field 2 is visually cut off from the upper campus
- TAPS office space is not directly adjacent to transit stop/plaza
- Fields built on structured garage carry a cost premium



Section A



Section B



ALTERNATIVE 5



Alternative 5

DETAILS

Structured Parking: 4 levels, Fields on Level 5
 +/- 2,060 spaces
 Surface: N/A
Total Parking: +/- 1,260 spaces

Field 1: 340,630 sf (7.8 acres)
 Field 2: 260,000 sf (6 acres)
 Field 3: 104,000 sf (2.4 acres)
 Field 4 (on top of parking): 177,000 sf (4 acres)
Total new field space: 881,630 (20.2 acres)
Net new field space: 243,472 (5.6 acres)

KEY FEATURES

Alternative 5 expands Field 2, adding additional fields to the south and west and on top of the parking facility. The orientation of the parking garage is north/south, giving it access only on Hagar. There is also no through connection to Coolidge. The Event Center is co-located with the other OPERS facilities and the tennis courts are relocated south of the parking garage, creating a Lower East Campus recreation area.

PROS

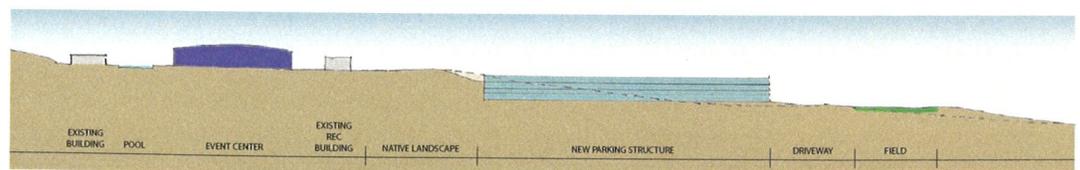
- Parking structure takes advantage of slope to reduce footprint
- Alternative gains field acreage by putting fields on the roof of parking structure
- Plan maintains views and vistas from upper terraces
- Event Center is located within existing sports/rec complex

CONS

- Parking structure is only accessed from Hagar
- Event Center is ± 400 linear feet away from the parking structure
- Plan requires relocation of tennis facilities
- NCAA field is oriented east-west (not the preferred orientation)
- Design would make maintaining existing parking difficult



Section A



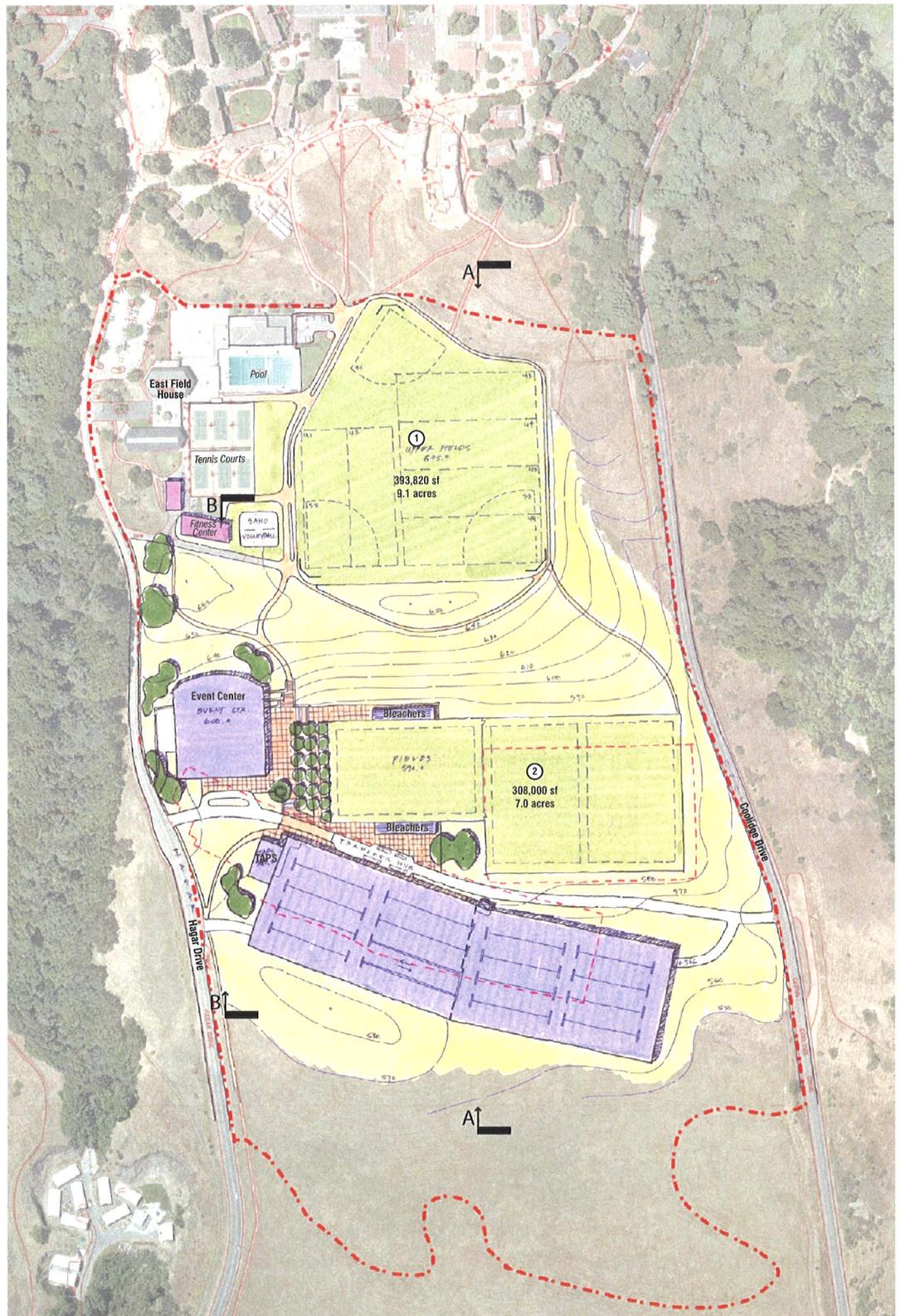
Section B

V

REFINED ALTERNATIVES



The Concept Alternatives in Chapter IV were presented to the client group for feedback. Each alternative was revised to reflect University direction.



N
ALTERNATIVE 1A
0 200 400

Refined Alternative 1A

DETAILS

Structured Parking: 3 levels
 +/- 2,250 spaces
 Surface: N/A
Total Parking: +/- 2,250 spaces

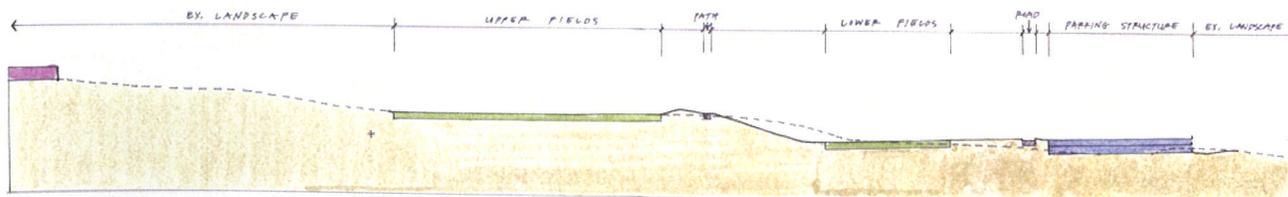
Field 1: 393,820 sf (9.1 acres)
 Field 2: 308,000 sf (7.0 acres)
Total new field space: 701,820 (16.1 acres)
Net new field space: 63,662 (1.4 acres)

KEY FEATURES

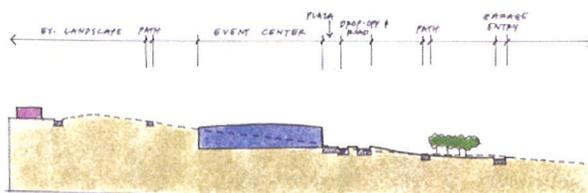
Alternative 1A adds a through road between Hagar and Coolidge separate from the parking garage. A plaza between the Event Center and the NCAA competition field creates a better connection between the two program elements and establishes an arrival and departure point for campus students, faculty and visitors arriving by public transportation.

REFINEMENTS TO ALTERNATIVE 1

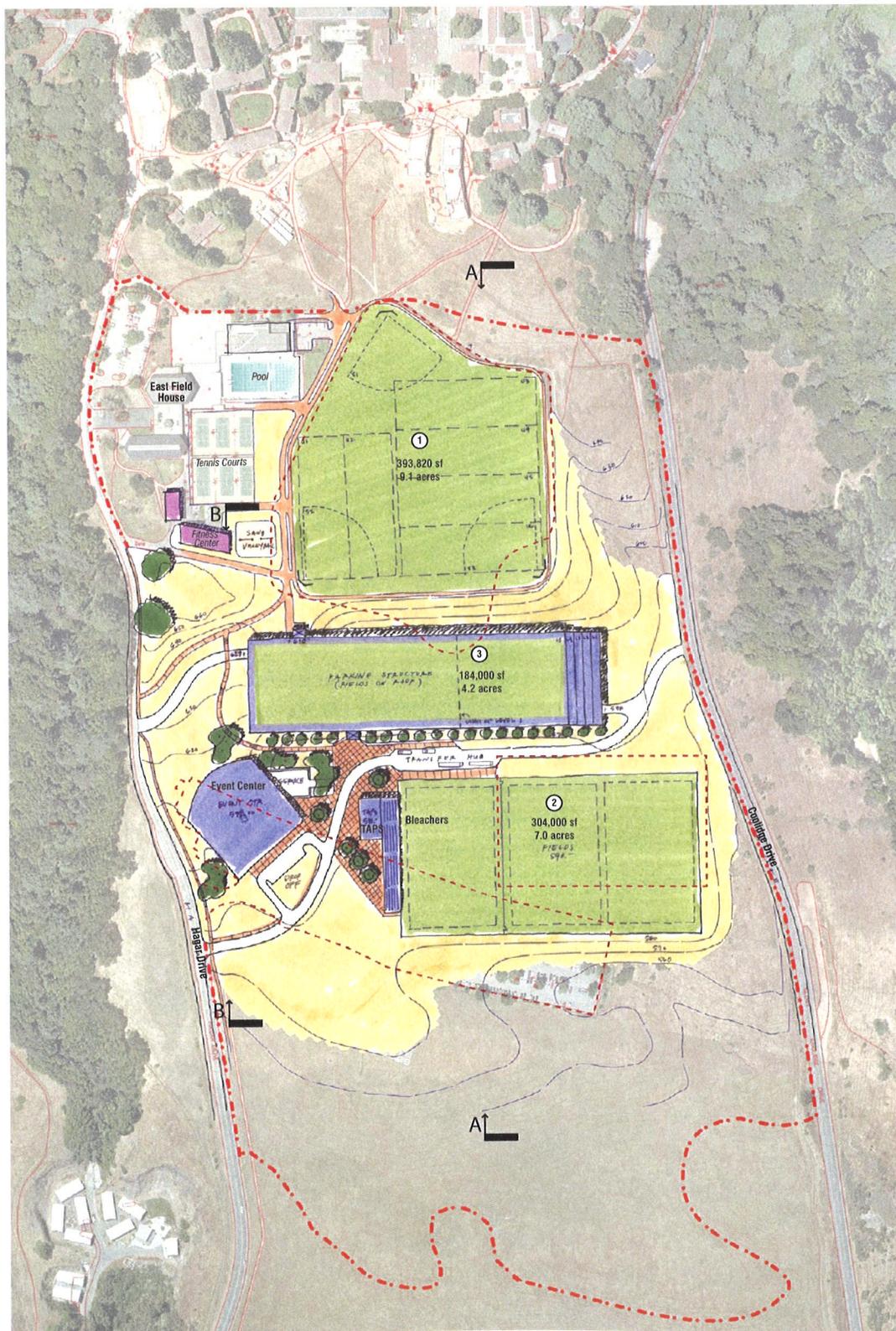
- Adds a dedicated through road between Hagar and Coolidge
- Increases number of parking spaces in garage; removes all surface parking
- Locates TAPS so that it has a relationship with both the transfer hub and parking structure
- Creates an upper plaza affiliated with the Event Center and a lower plaza along the competition field and transfer hub
- Removes the field between Fields 1 and 2
- Modifies Field 1 so that it can accommodate softball, ultimate and soccer uses
- Relocates sand volleyball so that it is adjacent to the Fitness Center



Section A



Section B



ALTERNATIVE 3A



Refined Alternative 3A

DETAILS

Structured Parking: 4 levels; Fields on Level 5
 +/- 2,009 spaces
 Surface: N/A
Total Parking: +/- 2,009 spaces

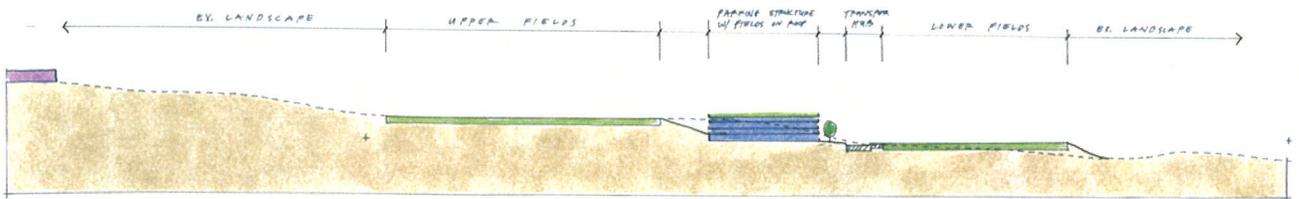
Field 1: 393,820 sf (9.1 acres)
 Field 2: 304,000 sf (7.0 acres)
 Field 3 (on top of Parking): 184,000 (4.2 acres)
Total new field space: 881,820 (20.3 acres)
Net new field space: 243,662 (5.7 acres)

KEY FEATURES

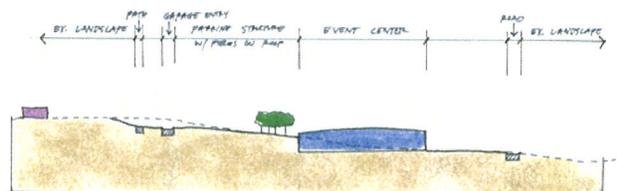
Alternative 3A establishes a through road between Hagar and Coolidge, south of the parking garage. A plaza, spanning the roadway, creates a visual connection between the TAPS office space and the Event Center. This scheme is short of the parking target, but achieves a net gain in field space of 5.7 acres.

REFINEMENTS TO ALTERNATIVE 3

- Adds a through road for access and drop-off to Event Center and transfer hub
- Relocates TAPS for relationship with transfer hub and visibility when entering campus
- Adds a half floor in the parking structure to achieve +/- 2000 spaces; removes surface parking
- Creates a plaza space between the Event Center, parking structure, and Field 2
- Terraces parking structure levels away from the Coolidge elevation
- Modifies Field 1 to accommodate softball, ultimate, and soccer uses
- Relocates sand volleyball adjacent to Fitness Center
- Slightly reduces gain in field space

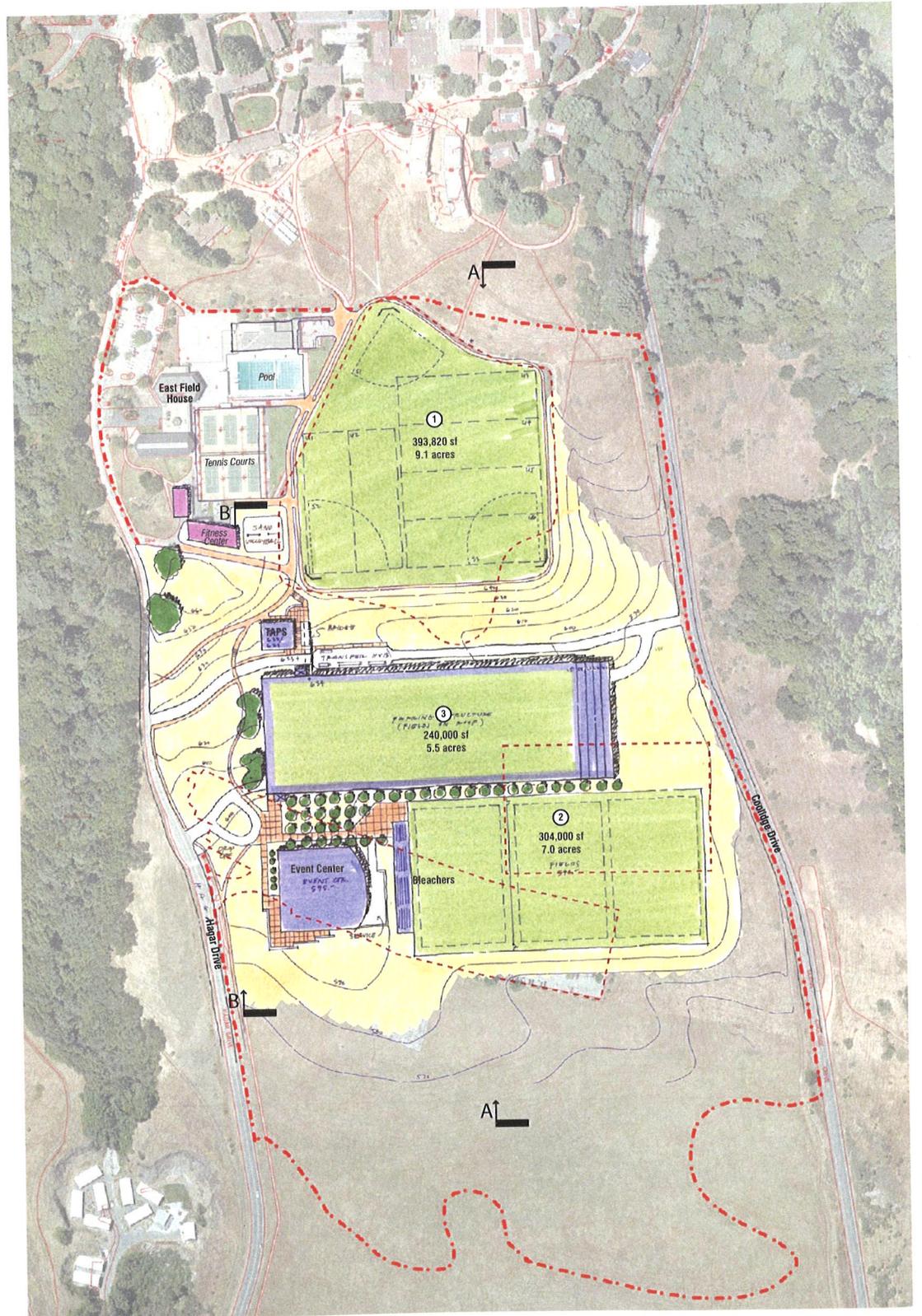


Section A



Section B

SECTION B



ALTERNATIVE 3B



Refined Alternative 3B

DETAILS

Structured Parking: 4 levels; Fields on Level 5
 +/- 2,982 spaces
 Surface: N/A
Total Parking: +/- 2,982 spaces

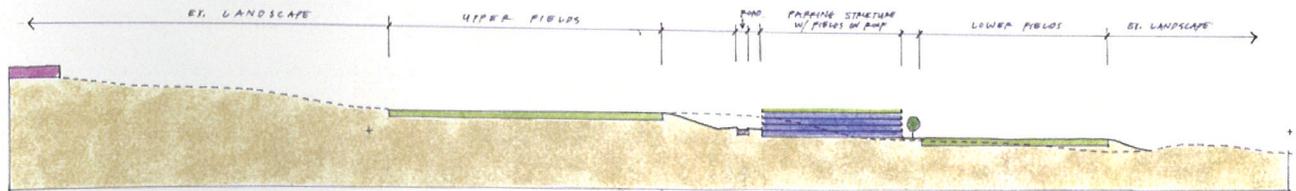
Field 1: 393,820 sf (9.1 acres)
 Field 2: 304,000 sf (7.0 acres)
 Field 3 (on top of Parking): 240,000 (5.5 acres)
Total new field space: 937,820 (21.6 acres)
Net new field space: 299,662 (6.9 acres)

KEY FEATURES

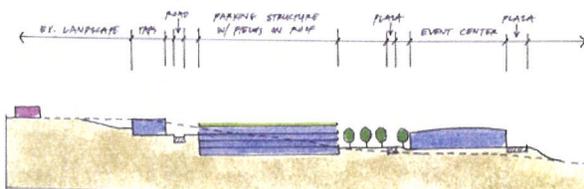
Alternative 3B sites the through road between Hagar and Coolidge north of the parking garage. This alternative improves pedestrian access to and from the campus. The scheme widens the parking garage and achieves the largest net gain in fields space (6.9 acres).

REFINEMENTS TO ALTERNATIVE 3

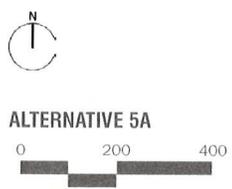
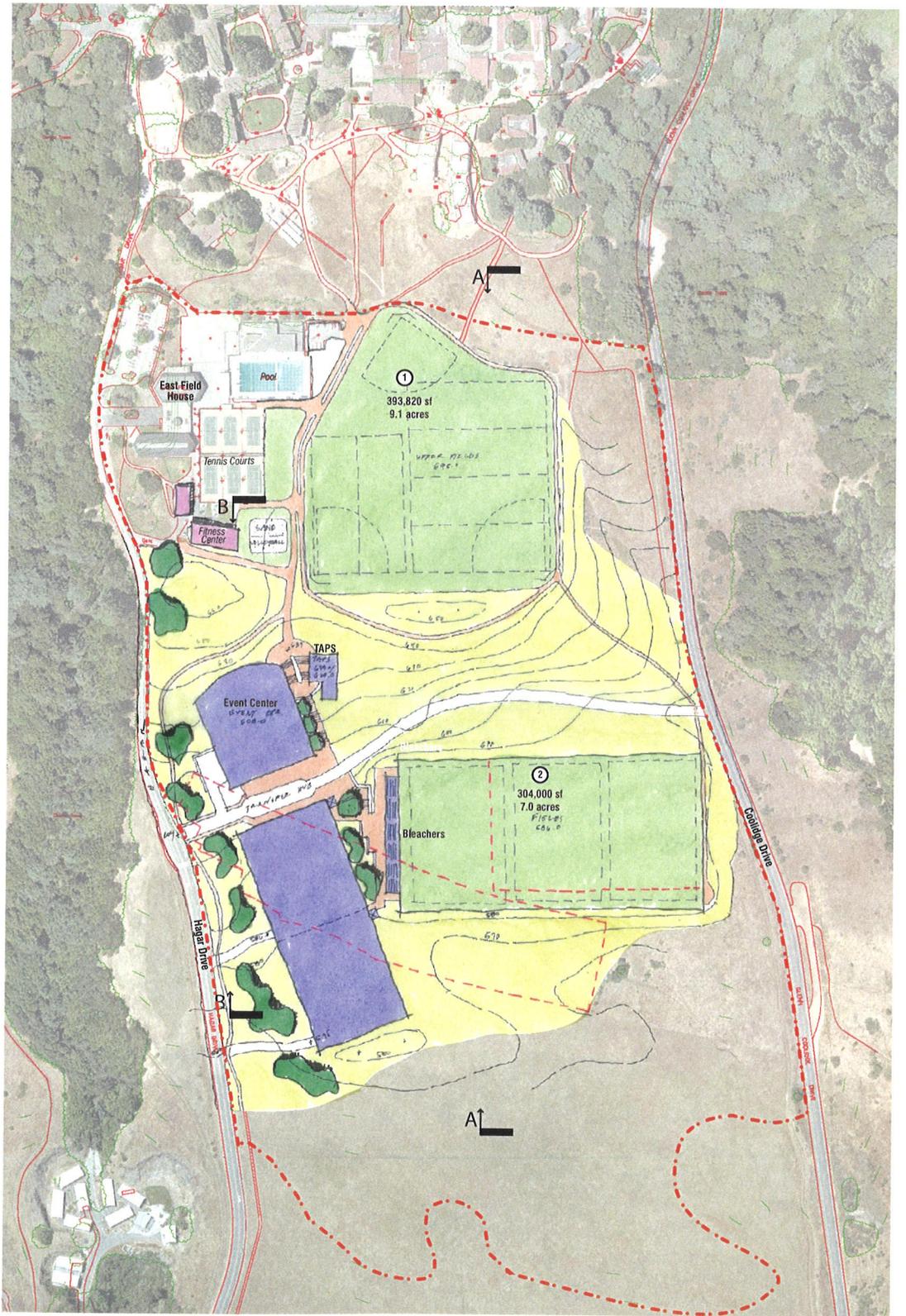
- Adds through road on north side of the parking structure
- Locates TAPS north of the parking structure so that it has a relationship with transfer hub and parking structure, and is closer to the central campus
- Widens parking structure to 300' to achieve +/- 3000 spaces (a larger portion of the structure is buried in uphill grades)
- Terraces parking structure levels back from the Coolidge elevation
- Reorients Event Center for better frontage on to Hagar
- Modifies Field 1 to accommodate softball, ultimate, and soccer uses
- Relocates sand volleyball adjacent to Fitness Center



Section A



Section B



ALTERNATIVE 5A

Refined Alternative 5A

DETAILS

Structured Parking: 5 levels; Fields on Level 5
 +/- 2,050 spaces
 Surface: N/A
Total Parking: +/- 2,050 spaces

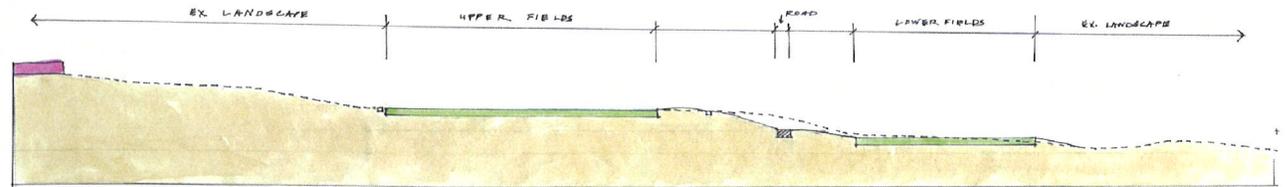
Field 1: 393,820 sf (9.1 acres)
 Field 2: 304,000 sf (7.0 acres)
Total new field space: 697,820 (16.0 acres)
Net new field space: 59,660 (1.4 acres)

KEY FEATURES

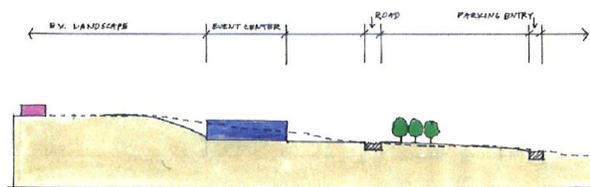
Alternative 5A locates the through road between Hagar and Coolidge north of the parking garage. Locating the garage adjacent to Field 2 allows for better access for field events and removes the pedestrian conflict of the through road. In addition, the garage structure steps with the natural topography, reducing the visual impact as one enters the campus and providing flexibility for phasing. Field 2 remains in its existing location and can be expanded south and west as needed.

REFINEMENTS TO ALTERNATIVE 5

- Adds a through road on north side of parking structure and Field 2
- Terraces parking structure with topography allowing access to occur at split levels
- Locates the Event Center on the north side of through road for better access from core campus, creating a stronger architectural edge along Hagar
- Locates TAPS north of the through road and adjacent to the Event Center for greater visibility from campus
- Maintains significant views and vistas from Field 1
- Modifies Field 1 to accommodate softball, ultimate, and soccer uses
- Relocates sand volleyball adjacent to the Fitness Center



Section A



Section B

VI

PREFERRED ALTERNATIVE

In October 2006, the Refined Alternatives were presented to the UC Santa Cruz Design Advisory Board (DAB). Alternative 5A was selected as the preferred alternative for the Lower East Campus.

1. Phasing flexibility. Students would like the renovation of the Lower East Field to be complete by Spring 2007, however that timing is subject to review if the field will be torn out to make way for a future parking facility. Furthermore, the existing East Remote Parking Lot must remain in use throughout the construction of the new parking structure. In 5A, the parking structure is sited in such a way that it neither impedes renovation of the Lower Field, nor necessitates the full closure of the East Remote Lot during construction. If UCSC's growth eventually requires the additional field space, the area south of the existing Lower Field could be so used.

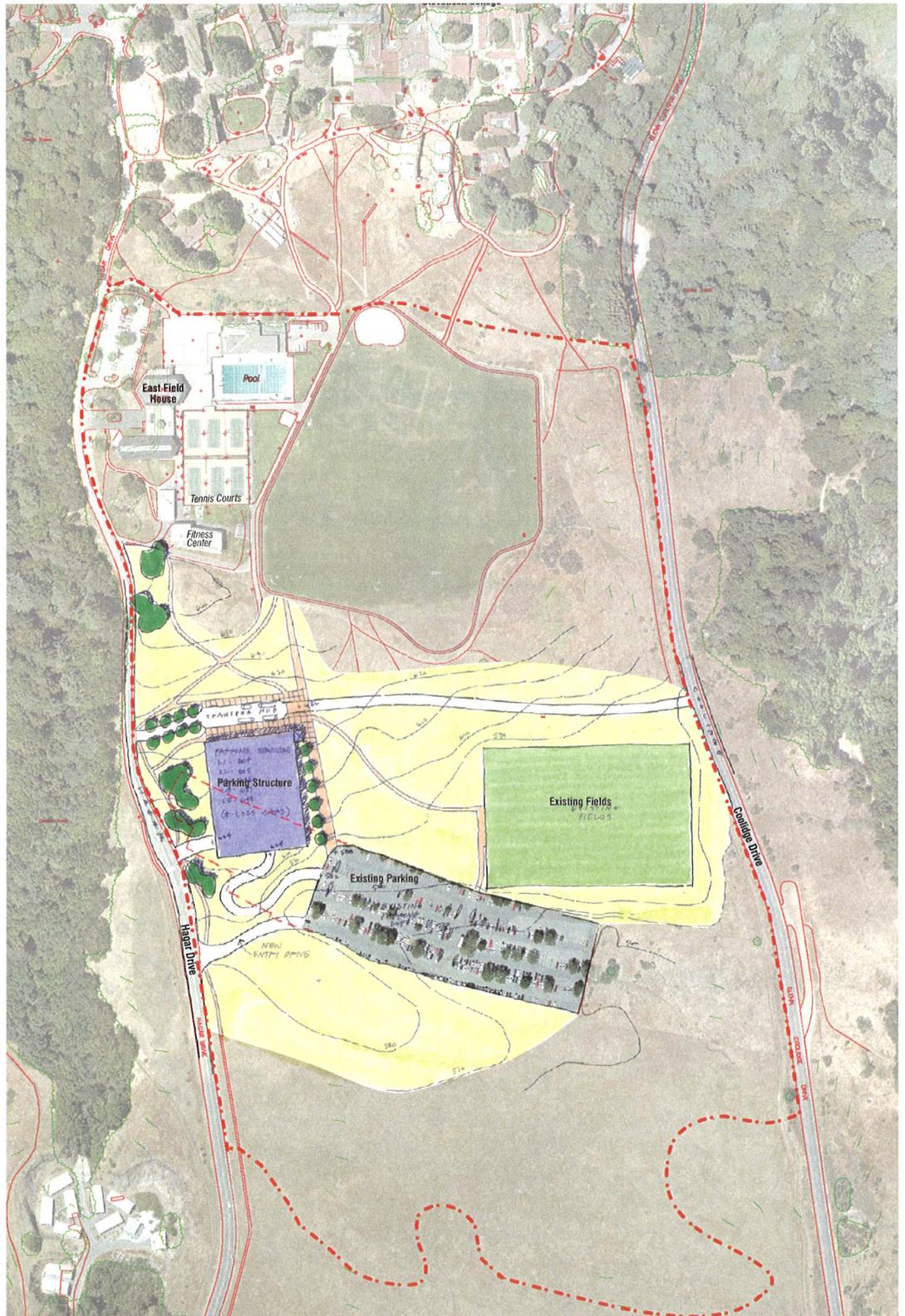
2. "Urban Edge" along Hagar. Orienting the parking garage north/south gives the entry to campus a desirable urban edge condition along Hagar, while simultaneously preserving the grasslands between the Upper and Lower Fields. Though potentially more costly, the plan minimizes the garage's visual impact by burying the parking structure in the uphill slope.

3. Potential to "zone" the East Campus. By siting the parking garage along Hagar and leaving the fields more or less where they are, scheme 5A establishes a "zoning" for the East Campus. Structures are located on the west portion of the site, close to the main road, while the fields occupy the middle and east edges of the site, leaving the views from campus to downtown and the ocean unobstructed.



PREFERRED ALTERNATIVE

0 200 400



PHASING PLAN

The first phase of construction could accommodate the through road, ± 1025 spaces in the garage, a temporary drive connecting the garage to existing parking lot and a new entry drive for the lot. Minor pedestrian improvements would be made in the phase, primarily focused around the transfer hub area.



**Playfield Cost Model
December 2006**

	Natural Turf (seed)	Natural Turf (sod)	Synthetic Turf Notes
1 Demolition	100,000	100,000	100,000 allowance
2 Site clearing and grading, fine prep	95,500	95,500	95,500 \$0.50/sf
3 Subsurface base (sand/topsoil)	incl	incl	incl see unit rate for play surface, line 7
4 Drainage	incl	incl	incl see unit rate for play surface, line 7
5 Irrigation	238,800	238,800	238,800 Wash water, rather than irrigation, for synthetic
6 Concrete header around play surface	26,700	26,700	26,700
7 Play surface	668,500	1,337,000	2,292,000
8 6' fencing typical, 20' high netting behind goals	89,000	89,000	89,000
9 Bleachers - 500 seats, closed deck aluminum	125,000	125,000	125,000
9a Bleacher HC access ramp	25,000	25,000	25,000
Total Site Construction	1,368,500	2,037,000	2,992,000
General Conditions	136,900	203,700	299,200
Contractor's Overhead & Profit or Fee	75,300	112,000	164,600
Contingency for Development of Design	237,000	353,000	518,000
Total Site Construction	1,817,700	2,705,700	3,973,800
Escalation, to start of construction;	Allow 10% for next 12 months, 6% thereafter		
Total Site Construction, unescalated (see above)	1,817,700	2,705,700	3,973,800
Add alternates (including all markups)			
1 Utility connections	99,600	allowance	
2 Press box - elevated	149,000	200 sf allowed	
3 Press box access elevator	199,000	incl enclosure	
4 Loudspeaker system	132,800		
5 Scoreboard	66,400		
6 Locker/concession/washroom building	1,395,000	3,000 sf allowed	
7 Field Lighting (70-80' high)	598,000		

Exclusions

Soils conditions requiring special foundations
Hazmat removal & disposal

Appendix

CONTRIBUTORS

UCSC:

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